













VERONICA *Chamaedrys.*

*Germander Speedwell.*

*Page 48.*

SYSTEMATIC ARRANGEMENT  
OF  
BRITISH PLANTS:

BY  
W. WITHERING, M.D.

CORRECTED AND CONDENSED;  
PRECEDED BY  
INSTRUCTIONS ADAPTED FOR PERSONS COMMENCING THE  
STUDY OF BOTANY,  
ACCOMPANIED WITH FIGURES:

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SEVENTH EDITION.

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TO  
MRS. THOMAS WHITE,  
THIS NEW AND IMPROVED EDITION  
OF  
A SYSTEMATIC ARRANGEMENT OF THE PLANTS  
OF GREAT BRITAIN AND IRELAND,  
INTENDED TO SIMPLIFY  
THE INTERESTING STUDY OF BOTANY,  
BY GIVING THE  
DESCRIPTIONS IN LANGUAGE EASY TO BE UNDERSTOOD,  
SO AS TO BRING IT WITHIN  
THE CIRCLE OF DOMESTIC AND PRIVATE EDUCATION,  
IS MOST RESPECTFULLY INSCRIBED BY  
THE PUBLISHER.

*Charterhouse Square, London,  
May, 1848.*



## PREFACE

### THE FIRST EDITION.

THE following work contains a description of the plants of Great Britain, compiled from the best authorities, together with a brief Introduction to the Study of Botany, in which the principal organs of vegetables are described and illustrated by figures. In composing it, the author has kept several objects in view, a want of attention to which has rendered the performances of our most eminent botanists less useful than they might have been. It has been wished by many persons that botanical descriptions might be freed as much as possible of foreign words, provided this could be done without sacrificing the technical terms, which are in every science necessary for preventing verbosity, and giving precision and perspicuity. A compendious description of our native plants, sufficiently full to enable the young botanist to determine the species that might come in his way, and at the same time neither too bulky for use in the fields, nor too expensive, has also been greatly desired. Lastly, it were to be wished that such a work should contain the means of enabling the beginner to examine plants without the assistance of others. All these objects have been aimed at in the present work. How far the compiler has succeeded will best be determined by the public. It is unnecessary to be particular in pointing out the sources from which the materials have been derived. The Arrangement of Dr. Withering was proposed as a basis; but his descriptions have frequently been substituted by others, which are conceived to be more correct.

Every body knows how much the writings of the late Sir James E. Smith, of Dr. Hooker, Lightfoot, and other English botanists, have tended to diffuse a taste for botanical pursuits. Their works at least could not be overlooked. Original descriptions have occasionally been furnished, and various particulars relative to the uses of plants added, by the compiler, who is sorry that he has not here to record any assistance derived from his botanical friends, although to one gentleman he is indebted for many valuable suggestions respecting the general plan of the work. Excepting the Ferns, the Cryptogamic Plants have been omitted, as too difficult for the Student, until he has rendered the more attractive species familiar. Several species generally admitted as native, but upon insufficient evidence, have also been omitted. Although the compiler cannot boast of so critical a knowledge of Botany as of some other departments of Natural History, he is yet sufficiently aware of the difficulties which the Student of that science has to encounter, and has been deeply impressed with the importance of precise characters and pure language in every science. It is therefore confidently hoped that the work will prove useful; and should the author have contributed in any considerable degree to facilitate the progress of beginners in the delightful study of Botany, he will be grateful to Him who has permitted such a use of the faculties bestowed upon him. It were alike unnecessary and useless to say any thing here in recommendation of the science of plants: unnecessary, because its fascinations have been extensively felt—and useless, because they who may peruse this work, if they do not love Nature for her own sake, will hardly be persuaded to love her for any thing that another might say in her praise.

W. MACGILLIVRAY.

*Edinburgh, June 9, 1830.*

## PREFACE

### THE FIFTH EDITION.

THE success which has attended the attempt made by the Editor of this work, to facilitate the acquisition of a knowledge of British plants, sufficiently shows the advantage of divesting descriptions of natural objects of all unnecessary technicalities, and especially of employing generally intelligible terms in preference to those of which the meaning is obscure. The sale of more than ten thousand copies seems to authorize a belief that the work has been found useful, while it also shows that Botany may now be fairly classed among the branches of popular education. It is even a matter of some exultation, that while the teachers of the higher seminaries of learning have recommended manuals either of their own or of their friends, it should yet have found its way among their pupils, to many of whom, and especially to students of medicine, its simplicity and perspicuity have rendered it acceptable. On the other hand, individuals living in remote parts of the country, and entirely removed from intercourse with others addicted to similar pursuits, have, with the sole aid of this manual, acquired no inconsiderable amount of botanical knowledge, and thus greatly enlarged their sources of innocent and healthy enjoyment. Several remarkable instances of this have unexpectedly come to the knowledge of the Editor, who can boast of pupils even in the wilds of Sutherland, Shetland, and the Outer Hebrides. It is not therefore inconsistent with truth to assert, that any person unacquainted with the subject, may, by attending to the directions



given in the introductory part, satisfactorily determine the species of almost every flowering plant he may meet with in his walks, and thus obtain a clue to all that is known respecting it.

This new edition has been carefully revised, and enriched by the insertion of several species, so as to contain familiar descriptions of all the indigenous Flowering Plants and Ferns of Great Britain, Ireland, and the Channel Islands. Many little alterations have been made, of which none however interfere in the slightest degree with the original plan of the work, or tend to detract from the simplicity of the descriptions. Additional stations for many of the rarer species have been given, and those plants which appear to have been originally introduced from other countries, and in progress of time become naturalized, or apparently wild, have been carefully distinguished from such as are undoubtedly native. Such plants as have no longer any claim to be reckoned as British, having disappeared from the localities assigned them, and others whose introduction into the Flora has been the result of error, have been omitted; while many varieties, formerly considered specifically distinct, are now reduced to their proper stations.

W. MACGILLIVRAY.

*Edinburgh, October 15, 1840.*

OF the present Edition it is unnecessary to say more than that it is carefully reprinted from the sixth, and contains at the end an arrangement of the genera according to the natural method.

W. M<sup>c</sup>G.

*Aberdeen, May, 1848.*

# INTRODUCTORY INSTRUCTIONS,

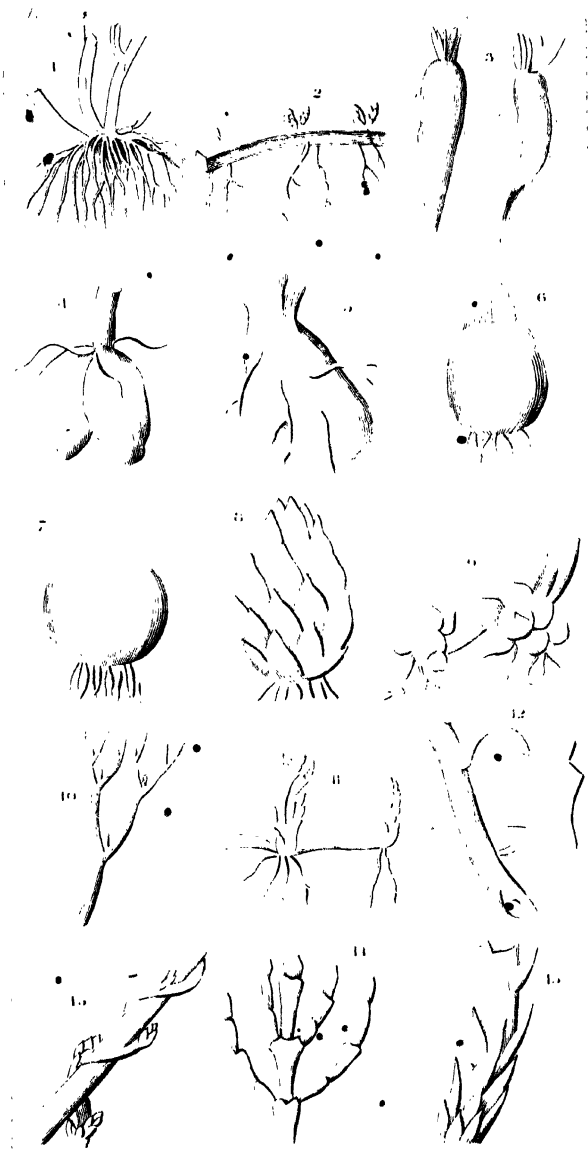
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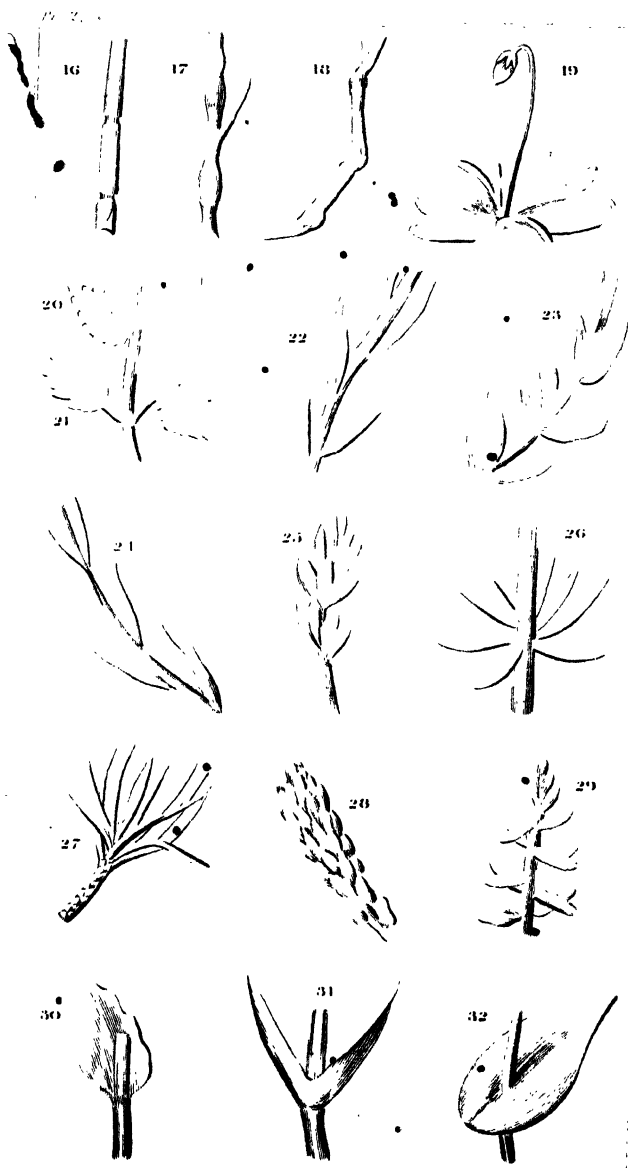
## THE STUDY OF BOTANY.

BOTANY is the science which enables us to become acquainted with the numerous and diversified vegetable productions with which the Author of Nature has adorned the surface of our globe. These objects, although possessed of life, have a constitution very different from that of animals, and their investigation in this point of view is extremely interesting; but the sole object of the present work being to facilitate the acquisition of a knowledge of the plants indigenous to Great Britain and Ireland, the reader is referred for an account of the anatomy and physiology of vegetables to the various works which treat entirely or in part of those subjects, and in particular to the “Manual of Botany” recently published by the Editor. Here he will find that kind of elementary knowledge only which will enable him to discover the name of a plant, and by directing his attention to its external form, excite in him a desire to extend his investigation to its internal structure, its relations, and its uses in the economy of nature. When he has rendered himself familiar with the outward appearance of species and their arrangement into genera, he may proceed to a more intimate examination of them, and thus acquire a knowledge of the principles by which they are grouped into natural families. Let no one imagine that, when he has become familiar with the aspect of a plant, learned its name, and observed its place of growth and time of flowering,

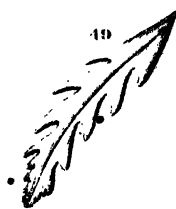
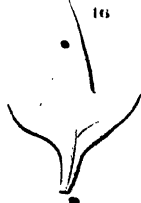
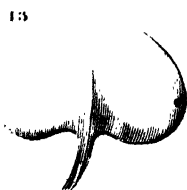
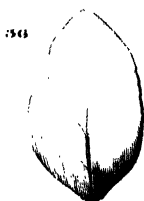
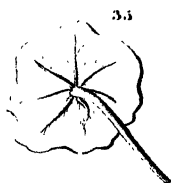
he knows all that is interesting in its history. But before the student has submitted to the most superficial examination half of the plants described in the following catalogue, he will become aware of the ultimate objects of botanical study ; and as it is impossible for him to form an adequate conception of them at the very commencement of his career, he must consent to acquire his knowledge by degrees. As to the plan and object of the present work, the mode of description adopted, and other circumstances,—they are all in accordance with the views entertained by many teachers, who have found it more intelligible than other more strictly technical Floras.





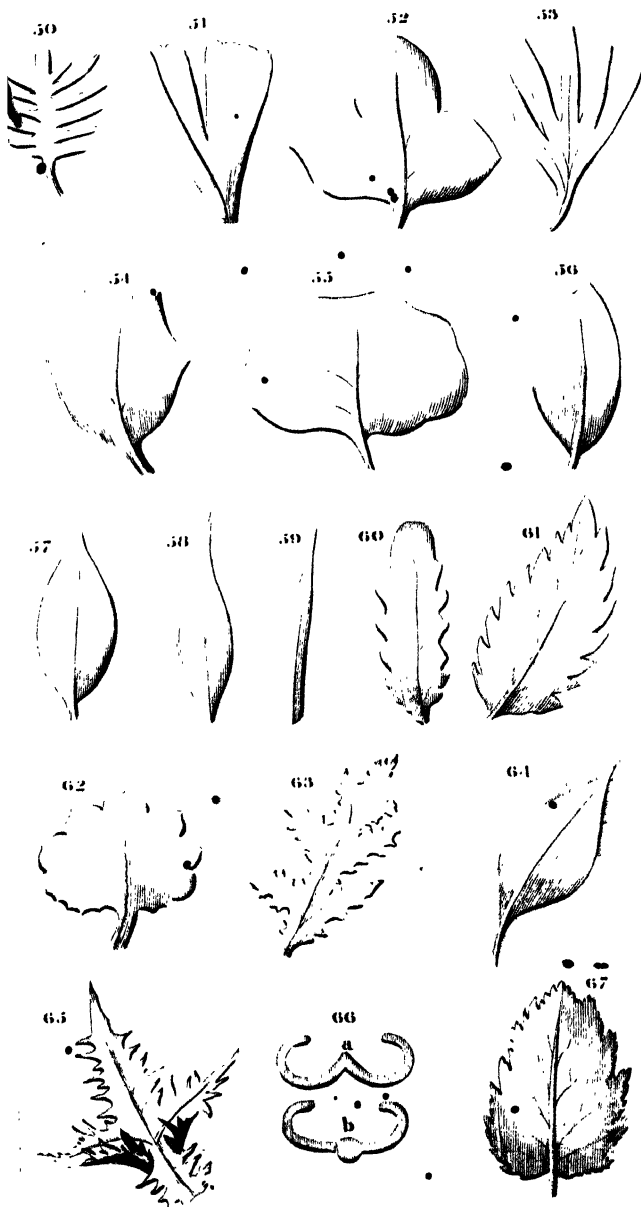




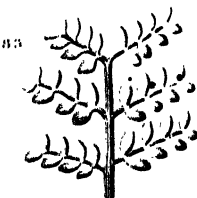
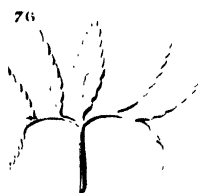
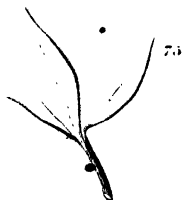
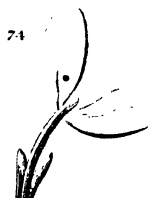
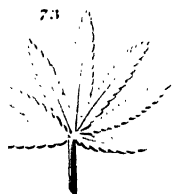
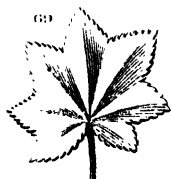




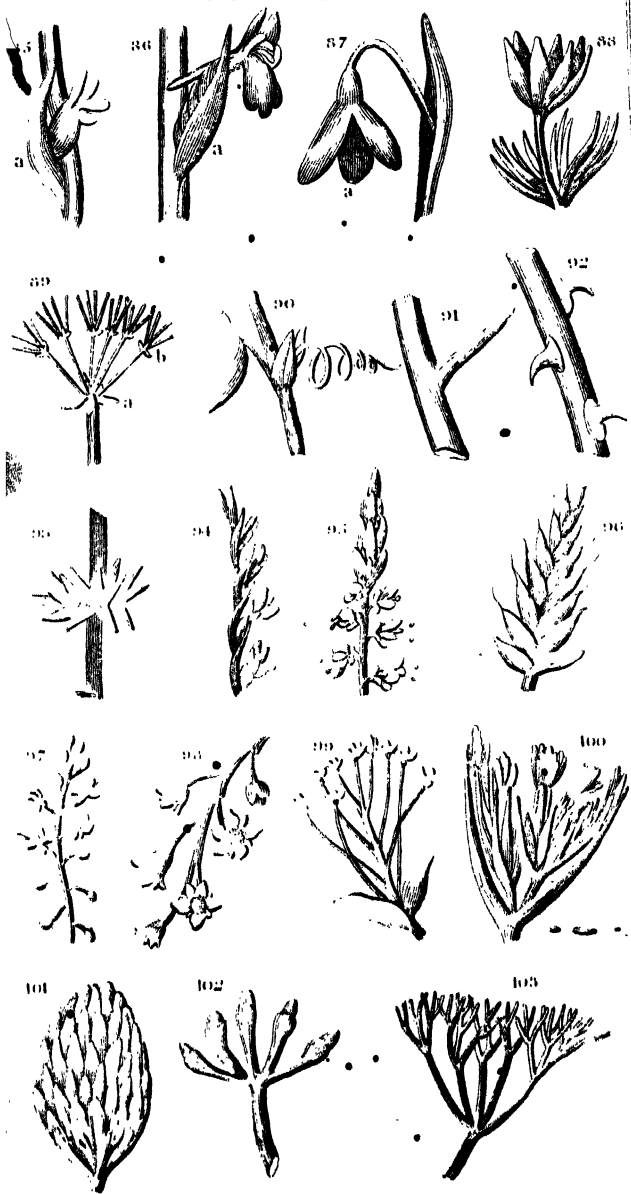




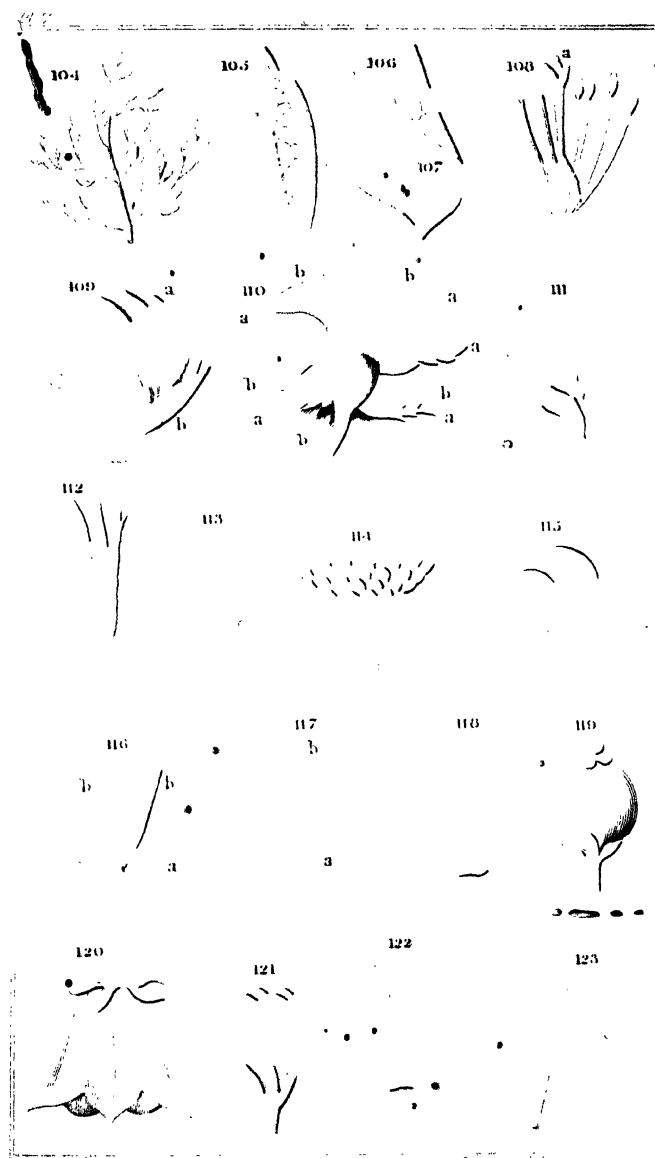






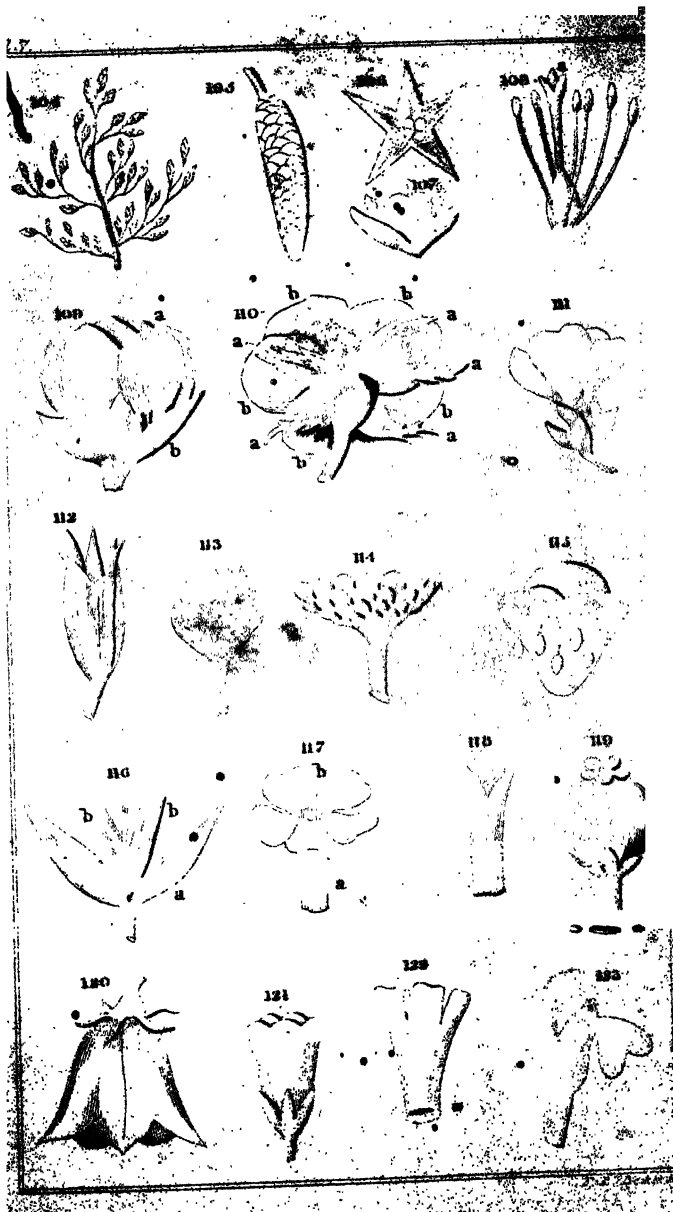




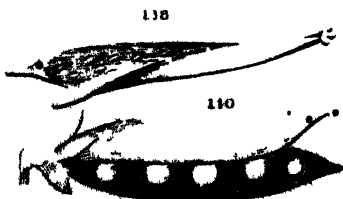




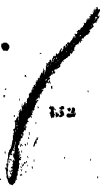
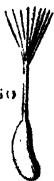
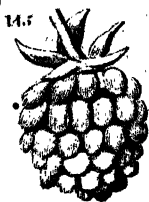














# BRIEF ACCOUNT

## OF THE

### VARIOUS ORGANS OF PLANTS.

IN commencing the study of practical Botany, it is necessary in the first place to acquire some knowledge of the various parts or organs of which plants are composed. A Plant or Vegetable may be defined an organized living body, destitute of sensibility and voluntary motion. Being always fixed in a particular spot, and thus incapacitated from searching for food, as animals are wont to do, plants are nourished by the substances which surround them, and imbibe or absorb, by their external surface, the atmospheric air, water, and matters dissolved in them. Having thus little choice, their organs of nutrition present little diversity; and being exempted from the necessity of observing and distinguishing objects, their faculties are very limited, compared with those of animals.

The parts of which a plant is composed, are named its *Organs*. These organs are formed of *Elementary Parts*, differing from each other, but so minute as to be distinctly visible only with the aid of the microscope. These minute parts are named *Elementary Organs*, *Organic Tissue*, or *Vegetable Tissue*, and consist of *cellules* and *tubes*, of various forms, of which the basis is *membrane* and *fibre*. The parts, such as the Root, the Leaves, and the Flowers, formed of these elementary cellules and tubes, are what we commonly call *Organs*, or *Compound Organs*. These may be divided into two kinds: *Organs of Nutrition*, and *Organs of Reproduction*. Of the former kind are the Root, Stem, Leaves, and Appendages; of the latter, the Flowers and Fruit.

It may be understood that a plant consists essentially of a *Root*, or descending part, and a *Stem*, or ascending part. The stem has appendages called *Leaves*. When not connected with the flower they are simply called *Leaves*. When there are small leaves connected with the leaves properly so called, or



their stalks, they are called *Stipules*. When connected with the flower or its stalk, they are called *Bracteas*. Leaves aggregated together and surrounding the flower at some distance form an *Involucre*, or when closely investing the flower, a *Calyx*. Delicate leaves immediately within the calyx constitute the *Corolla*. Within it, leaves modified so as to resemble filaments with an enlarged part at the end, form the *Stamens*; and in the centre of the flower, modified leaves enclosing seeds, are the *Carpels*, singly or collectively forming *Seed-vessels* or *Pericarps*, which at first are named *Ovaries*. Thus all the organs attached to the stem are modified leaves.

#### OF THE ROOT AND ITS DIFFERENT KINDS.

The *Root* is that part of the plant which is commonly immersed in the ground. It consists of two parts, the *Body* of the root, and the *Radicles* or *Fibres*. The latter are small branches or thread-like organs which come off from the body, and are the only essential parts of the root, it being by their spongy extremities that nutritious matter is absorbed from the soil. The uses of the root are to fix the plant in a particular place, and to imbibe nourishment for it. The following are the principal varieties of the root :

A *Fibrous Root* (Fig. 1.) consists entirely of fibres or radicles, which may be undivided or branched.

A *Creeping Root* (Fig. 2.) is a kind of subterranean stem, running horizontally, and throwing out fibres at intervals. The fibres are the true roots; but although the body may be called a stem, it is also analogous to the body of a root, and in fact gives off stems, as in Mint.

A *Tapering* or *Spindle-shaped Root* (Fig. 3.) is a thickened, fleshy root, tapering downwards, and sending out small fibres.

A *Tuberous* or *Knobbed Root* (Fig. 4.) consists of fibres together with one or more fleshy knobs, varying in form, and which are, properly speaking, subterranean reservoirs of nutritious matter for the development of the stem and leaves of next year. The true Tuber, however, as that of the potatoe, is a fleshy subterranean stem, having buds in it, which on being developed become stems.

An *Abrupt Root* (Fig. 5.) is a kind of fleshy root, having an elongated form, and looking as if it had been bitten off at the lower end.

A *Bulbous Root* is a root which, superadded to numerous fibres, has an enlarged, more or less spherical part, or bud, which may be *solid* (Fig. 6.); *coated*, composed of concentric layers (Fig. 7.); or *scaly*, consisting of thick scales. (Fig. 8.)

A *Granulated Root* (Fig. 9.) consists of numerous small bulb-like buds or scales strung together.

The duration of the root determines that of the plant. When the root lasts only one year, the plant is said to be *Annual*. When it continues two years, the plant is *Biennial*; when more than two years, *Perennial*.

#### OF THE STEM.

The *Stem* is that part of the plant which, rising above ground, supports the leaves and flowers.

Some plants have no stem, or only a very short one, and are therefore denominated *stemless*.

Others have a soft stem, which, after the fruit is perfected, decays, and is named *herbaceous*.

Others again have a hard *woody* stem. Plants possessed of this kind of stem are, when large, called *Trees*; when small, *Shrubs*.

In the woody stem there are distinguished the following parts: the *cuticle* or *epidermis*, the external thin filmy covering; the *cellular integument*, a thin layer under the epidermis; the *outer bark*, generally of a brown or gray colour; the *inner bark*, a whitish, soft, fibrous, and very flexible part, lying under the outer bark; the *alburnum*, or layers of young wood next to the inner bark; the *duramen* or *hard wood*, also in layers; and lastly, the *pith*, a white, cellular, spongy substance, occupying the centre of the stem, and enclosed by the medullary sheath.

The stems of trees and shrubs growing in our climate are all of this kind. They increase in size by the addition of a new layer of wood every year to the alburnum, and of a thinner layer to the inner bark. It is thus between the wood and the bark, that the substance is formed, which, at first a clammy fluid, named *Cambium*, is, according to some, gradually organized, and converted into wood and bark. Plants that increase in size in this manner, are called *Exogenous*, that is, growing outwards, because their growth takes place near the surface. But palms, and other trees of tropical countries, having no distinction of parts into pith, woody layers, bark, and

epidermis, enlarge by the addition of fibres to their interior, and are thus said to be *Endogenous*, or growing inwards.

Herbaceous stems have also an epidermis, cellular substance, fibrous and vascular tissue, and sometimes internal pith.

The stem of a tree is called its *Trunk*; the divisions of the stem are the *Branches* and *Twigs*.

Stems in general may be *simple*, having no divisions; or they may be *branched*. Of the latter there are several kinds.

A *Forked* or *Dichotomous Stem* (Fig. 10.) is when it is regularly and repeatedly divided into two, and a flower springs from each fork.

A *Panicled Stem* is when branches come off irregularly, and are themselves irregularly divided, the ultimate divisions bearing flowers.

*Two-ranked*, when the branches spread in two opposite directions.

*Four-ranked*, when they spread in four directions.

*With respect to its general direction, the Stem is*

*Erect* or *Upright*, when it rises perpendicularly.

*Ascending* or *Oblique*, having an oblique direction.

*Procumbent*, lying on the ground.

*Creeping* or *Repent*, running along the ground, and sending down roots from space to space, in the manner of Fig. 2. The *Runner* (Fig. 11.), is a stem of this kind, which, forming a bud at its extremity, produces a new plant, and then withers.

*Prostrate*, lying remarkably flat.

*Clinging* (Fig. 12.), holding fast to some other body for support, by means of fibres.

*Climbing* or *Scandent*, ascending on other bodies, either by fibres or by tendrils.

*Twining* round other plants or bodies. (Fig. 13.) Some - stems as twine from left to right, others from right to left.

*Straight*, proceeding in a direct course.

*Flexuous* or *Zig-zag*, forming angles from right to left, and the reverse.

*With respect to form, the Stem is*

*Round* or *Cylindrical*, when a transverse section is circular, or nearly so.

*Semi-cylindrical*, when flat on one side and round on the other.

*Compressed*, when more or less flat on both sides.

*Two-edged*, when more or less compressed, with two opposite sharp edges.

*Three-edged*, or triangular, or three-cornered.

*Four-edged*, or four-cornered.

*Five-cornered*. When the number of corners exceeds five, the stem is described as being *angular* or *many-cornered*.

*Winged* or *Alate*, when the edges or corners are extended into thin leafy borders.

*Jointed* or *articulated* (Fig. 14.), when formed into distinct parts united by portions of smaller diameter.

*With respect to its surface, it is*

*Smooth*, bare, or destitute of all kinds of hairiness.

*Even*, destitute of all kinds of inequality.

*Polished* or *Shining*, smooth and reflecting light.

*Viscid* or *Clammy*, covered with a glutinous juice.

*Scaly* or *Squamous*, covered with scales. (Fig. 15.)

*Warty* or *Tuberculate*, covered with small hard protuberances.

*Papillous*, covered with small soft protuberances.

*Rough* or *Uneven*, covered with inequalities of any kind, as opposed to even.

*Prickly* or *Aculeate*, covered with prickles.

*Bristly* or *Hispid*, covered with stiff hairs.

*Shaggy*, covered with very long, soft, generally white hairs.

*Woolly*, covered with long, soft, interwoven, or tortuous hairs.

*Hairy* or *Pilose*, covered with long, soft, straight hairs.

*Downy* or *Tomentose*, covered with soft, fine hairs.

*Hoary*, covered with close, white hairs, extremely fine.

*Glaucous*, covered with a pale greenish-blue mealiness, consisting of minute particles of the nature of wax.

*Striated* or *Streaked*, marked with parallel longitudinal lines.

*Furrowed*, *Grooved* or *Sulcate*, marked with larger alternately prominent and depressed lines. When the lines become wider the stem is *Cornered* or *Angular*.

*Internally the Stem may be*

*Solid*, without an internal cavity.

*Hollow*, having a large internal cavity.

*Pithy*, having the central part filled with spongy pith.

There is a kind of stem, peculiar to grasses and other allied

plants, which is named the *Straw* or *Culm*. It presents the following varieties :

*Jointed*, with cylindrical hollow parts, united by a contracted solid part. (Fig. 16.)

*Knotted*, when the joints are enlarged. (Fig. 17.)

*Geniculate* or *Kneed*, when the joints are bent like a knee. (Fig. 18.)

It may be solid, round, triangular, smooth, rough, hairy, or downy.

A variety of the Stem is the *Stalk*, *Flower-stalk*, *Scape* or *Radical Peduncle*, (Fig. 19.) which springs from the root, and supports the flowers, but not the leaves. It may be

*Simple*, or undivided, and bearing a single flower.

*Subdivided*, and bearing several flowers.

*Scaly*, covered with scales.

*Naked*, without scales.

As to surface, &c., it is named like the Stem.

#### OF THE LEAVES.

The *Leaves* are organs of an expanded form, almost always of a green colour, internally cellular, fibrous, vascular, and more or less pulpy. They are organs of respiration, absorption, and evaporation, and it is by the action of the air upon the juices of the plant conveyed into them, that the substances necessary for the growth of all the organs are prepared. These substances, in a fluid state, afterwards descend through the leaf-stalk, and the outer parts of the stem. Many plants are destitute of leaves, and are therefore termed *leafless*. When a leaf has no stalk, it is said to be *sessile* or *sitting*. (Fig. 20.) When it is elevated on a stalk, it is said to be *stalked* or *petiolate*. (Fig. 21.)

The *Leaf-stalk* or *Petiole* is either *simple*, that is, undivided; or *compound*, that is, variously branched or divided. It is commonly channelled on the upper side, and frequently enlarged at the base.

*With respect to situation and position, Leaves are*

*Radical* or *Root-leaves*, when they arise from the top of the root, or from a very short stem. (Fig. 19.)

*Cauline* or *Stem-leaves*, when they grow on the stem. (Fig. 23, 24.)

*Alternate* (Fig. 22.), when they come off from the stem one by one in different directions.

*Opposite* (Fig. 23.), when they grow opposite to each other in pairs.

*Scattered* (Fig. 24.), irregularly distributed.

*Clustered* (Fig. 25.), crowded together.

*Remote*, when widely separated.

They may grow two together, in threes, four together, &c.

*Whorled* (Fig. 26.), when several leaves, three or more, grow in a circle round the stem.

*Fasciculate* or *Tufted* (Fig. 27.), when several leaves spring from one point.

*Imbricated* (Fig. 28.), when one leaf lies closely over another, like the tiles or slates on the roof of a house.

*Decussated* (Fig. 29.), in pairs alternately crossing each other.

*Two-ranked*, spreading in two directions.

*Unilateral*, all inclining one way.

#### *With respect to direction, they are*

*Adpressed* or *Close-pressed* to the stem.

*Erect* or *Upright*, forming a very acute angle with the stem.

*Vertical*, standing quite erect.

*Spreading*, forming a moderately acute angle with the stem.

*Horizontal*, standing off at right angles.

*Reclinate*, inclining downwards.

*Reflected*, bent backwards.

*Inflected*, bent inwards.

*Depressed*, root-leaves pressed close to the ground.

*Floating*, leaves lying flat on the surface of the water.

*Immersed* or *submersed*, under water.

*Emersed*, standing out of the water.

#### *With respect to insertion, Leaves are*

*Embracing* or *Amplexicaule* (Fig. 30.), when they clasp the stem with their base.

*Connate* or growing together (Fig. 31.), united at their base.

*Perfoliate* (Fig. 32.), when the stem runs through the leaf.

*Sheathing* or *Vaginant*, investing the stem or each other with a sheath.

*Equitant* or *Riding* (Fig. 33.), disposed in two opposite rows, and embracing each other at the base.

*Decurrent* (Fig. 34.), running down the stem or branch so as to form a leafy border.

*Peltate* or *Shield-shaped* (Fig. 35.), when the stalk is inserted into the middle of the leaf.

Leaves are Simple or Compound. A *Simple Leaf* is one which consists of a single piece, whether sessile or stalked. A *Compound Leaf* is one which consists of several pieces connected by insertion into a common footstalk. In simple leaves there are to be considered the general form, the terminations, the margins, the surface, the substance, and the duration.

*With respect to form, Simple Leaves are*

*Orbicular*, when the length and breadth are equal. (Fig. 35.)

*Roundish*, when the length and breadth are nearly equal.

*Egg-shaped* or *Ovate* (Fig. 36.), longer than broad, the base broader than the end.

*Inversely egg-shaped*, or *obovate*, longer than broad, the end broader than the base.

*Oval* or *Elliptical* (Fig. 37.), the length greater than the breadth, but both ends alike rounded.

*Oblong*, the length three or four times greater than the breadth.

*Spathulate* (Fig. 38.), circular at the end, and tapering towards the base.

*Wedge-shaped* or *Cuneate* (Fig. 39.), broad at the end, and tapering towards the base.

*Rhombic* or *Diamond-shaped*, approaching to a square.

*Lance-shaped*, *Spear-shaped*, or *Lanceolate* (Fig. 40.), oblong and narrow, tapering towards each end.

*Linear* (Fig. 41.), very narrow, with the edges parallel.

*Needle-shaped*, *Acerose*, or *Acicular*, linear and evergreen.

*Triangular* (Fig. 42.), flat with three angles.

*Quadrangular*, with four angles.

*Quinquangular*, with five angles.

*Kidney-shaped* (Fig. 43.), roundish, with the base hollowed out.

*Heart-shaped* (Fig. 44.), egg-shaped, with the base hollowed out.

*Arrow-shaped* (Fig. 45.), triangular, hollowed out at the base, with the angles pointed.

*Halbert-shaped* (Fig. 46.), triangular, hollowed out at the base and sides, with a projecting part on each side.

*Pinnatifid* (Fig. 47.), cut transversely into several oblong segments.

*Lyre-shaped* (Fig. 48.), cut transversely into several oblong segments, with a terminal segment rounded and larger than the others.

*Runcinate* (Fig. 49.), a leaf having numerous segments, which are pointed and directed backwards.

*Pectinate* or *comb-like* (Fig. 50.), with the segments very narrow.

*Cleft* (Fig. 51.), when the margins of the segments are straight.

*Lobed* (Fig. 52.), when the margins of the segments are rounded.

*Palmate* (Fig. 53.), when there are several oblong segments, extending to the middle of the leaf, leaving an entire space, so as to resemble a hand.

*Undivided*, when there are no segments, as in Fig. 36, 37.

*With respect to the terminations, Simple Leaves are*

*Blunt* or *obtuse* (Fig. 36.), when rounded at the end.

*Abrupt* (Fig. 54.), when the extremity seems as if cut off by a transverse line.

*Retuse* (Fig. 55.), ending in a broad shallow notch.

*Notched* or *Emarginate* (Fig. 56.), ending with a small notch.

*Acute* or *Pointed* (Fig. 57.), ending in a point.

*Acuminate* or *Taper-pointed* (Fig. 58.), having a long tapering point.

*Bristle-pointed* (Fig. 59.), when terminated by a bristly point.

*With respect to their margins, they are*

*Entire* (Fig. 36. 43.), when destitute of teeth or notches of any kind on the edges.

*Toothed* (Fig. 60.), having small, generally blunt protuberances on the margin, which are named *teeth*.

*Serrated* (Fig. 61.), when the teeth are sharp, close, and point in one direction, like those of a saw.

*Finely serrated* or *Serrulate*, when the teeth are minute.

*Crenate* or *Notched* (Fig. 62.), when the teeth are broad and not directed towards either end.



*Erose, Gnawed or Jagged* (Fig. 63.), irregularly notched or cut.

*Undulated or Waved* (Fig. 55.), presenting a waved margin.

*Fringed or Ciliate* (Fig. 64.), bordered with soft hairs.

*Prickly or Spinous* at the margin. (Fig. 65.)

*Revolute* or rolled back at the margin. (Fig. 66, *a*.)

*Involute* or rolled inwards at the margin. (Fig. 66, *b*.)

With respect to *surface*, leaves present numerous varieties, the principal of which have already been pointed out in speaking of the surface. Thus they may be smooth, hairy, downy, &c.

Leaves, however, may also be

*Veined* (Fig. 67.), when the vessels are more or less prominent, and are subdivided so as to form a net-work.

*Ribbed, or Nerved* (Fig. 68.), when the vessels extend in undivided lines.

*Wrinkled or Rugose*, when the veins are tighter than the substance between them, so that the latter becomes puckered.

*Plaited or Plicate* (Fig. 69.), when the leaf is folded, so as to present alternately projecting and retiring angles.

*Curled or Crisp*, when the margin is greatly more expanded than the disk, and the leaf thus becomes folded or curled.

*Naked*, destitute of all kinds of hairiness.

*With respect to substance, Simple Leaves are*

*Membranous*, when very thin and easily torn.

*Leathery or Coriaceous*, when thin but very tough.

*Fleshy*, when more or less thick and juicy.

*Cartilaginous*, when more or less thick and tough.

*Flat*, opposed to the following :

*Cylindrical or round ; Semi-cylindrical*, flat on one side, and round on the other.

*Compressed*, when thick and flattened laterally.

*Depressed*, flattened vertically.

*Channelled or Canaliculate* (Fig. 70.), having a longitudinal groove.

*Keelcd or Carinate* (Fig. 71.), having a longitudinal prominence or ridge on the back.

*Sword-shaped or Ensiform*, perpendicular, two-edged, and slightly convex on both surfaces.

*Awl-shaped* or *Subulate* (Fig. 72.), long, cylindrical at the base, and tapering to a point.

*Hair-shaped* or *Bristle-shaped*, the same, but more slender.

*Hollow* or *Tubular*, more or less cylindrical and empty.

*Jointed* or *articulate*, divided into cavities by transverse partitions.

*Two-edged*, *Trigonal*, *Tetragonal*, *Three-sided*, or *Three-edged*, *Four-sided*, &c.

*With respect to duration, Leaves are*

*Caducous*, when they fall soon after their development.

*Deciduous*, when they fall before the next spring.

*Marcescent*, when they wither before falling.

*Persistent*, *Permanent*, or *Evergreen*, when they remain longer than a year.

*Compound Leaves are named as follows :*

*Compound Leaves* are such as present a greater or less number of distinct parts connected by a common stalk. The distinct parts are named *Leaflets* or *Folioles*, and the divisions of the common stalk are named *Partial Stalks*. The following are the principal kinds of Compound Leaves :

*Fingered* or *Digitate* (Fig. 73), when several leaflets rest upon the summit of a common stalk.

*Binate* (Fig. 74.), when two leaflets rest upon a common stalk.

*Ternate* (Fig. 75.), when three leaflets rest upon a common stalk.

*Quinate*, when the leaflets are five.

*Pedate* (Fig. 76.), a ternate leaf, having its lateral leaflets divided into several others.

*Pinnate* or *Winged*, when several leaflets proceed laterally from a common stalk. Of this there are several varieties.

*Pinnate* with an odd *terminal leaflet*. (Fig. 77, 80, 84.)

*Pinnate* with a *tendrill* (Fig. 78.), when a tendrill or thread-like body terminates the stalk.

*Abruptly Pinnate* (Fig. 79.), without a terminal leaflet or tendrill.

*Alternately Pinnate* (Fig. 80.), when the leaflets are alternate.

*Oppositely Pinnate* (Fig. 77, 78, 79.), when the leaflets are opposite.

*Interruptedly Pinnate*, when there are smaller leaflets between the larger.

*Jointedly Pinnate*, with joints in the stalk.

*Decurrently Pinnate*, when the leaflets run down the stalk.

*Pinnate in a lyrate manner* (Fig. 77.), when the terminal leaflet is largest.

*Conjugate, Yoked or Paired*, when there are only two pinnæ or leaflets.

*Bigeminate* (Fig. 81.), twice paired.

*Trigeminate*, thrice paired.

*Biternate* (Fig. 82.), twice ternate.

*Triternate*, thrice ternate.

*Bipinnate* (Fig. 83.), twice pinnate.

*Tripinnate*, thrice pinnate.

Without reference to the mode of division, the degrees in which leaves are compounded are expressed in the following terms :

*Compound*, as in Fig. 73, 74, 75, 76.

*Twice compound*, as in Fig. 81, 82, 83.

*Thrice compound*, still more divided.

#### OF THE APPENDAGES.

The Appendages are organs or parts not included under the other principal divisions. Several kinds are enumerated. Of these the principal are the following :

1. The *Stipule*, or appendage to the leaf (Fig. 84\*). These organs are generally of a leafy nature, and are named in the same manner as the leaves themselves, being egg-shaped, arrow-shaped, serrated, obtuse, &c. They are commonly sessile and in pairs. The stipule of grasses is frequently termed the *ligule*, or strap.

2. The *Bractea* or *Floral leaf* (Fig. 85 a., 86 a., 89 a. b.), a leafy appendage to the flower or its stalk. It varies greatly in form, and is named like the leaves, which it frequently resembles in colour and texture, although it is often much thinner and variously coloured.

3. The *Spatha* or *Sheath* (Fig. 87.), is a membranous bractea which encloses the flower in its earliest stages, afterwards bursts longitudinally, and is ultimately at a greater or less distance from the flower.

4. The *Involucre* (Fig. 88.) is a kind of bractea, consisting of several leaves, placed at a distance from the flower. When at the base of a common or general umbel, it is called the *Common Involucre* (Fig. 89, *a.*); and when at the base of a partial umbel, the *Partial Involucre*. (Fig. 90, *b.*) The same name is now generally given to the *calyx* of the compound flowers.

5. The *Tendrils* or *Cirrus* (Fig. 90, 78.), a thread-like organ, a prolongation of the midrib or veins of the leaves, which serves to attach plants to some support. It may be simple or divided.

6. *Glands*, small round bodies which secrete fluids.

7. The *Thorn* or *Spine* (Fig. 91.), an acute appendage which arises from the wood, being in fact an abortive branch. It may be *terminal*, situated at the point of a branch; *axillary*, at the origin of the branch; *simple* or *branched*.

8. The *Prickle* (Fig. 92.), a pointed production which arises from the bark, having no connexion with the wood.

9. *Hairs*, slender bodies of various degrees of fineness, by which the surfaces of plants are covered. They are generally simple, sometimes branched in various degrees.

#### OF THE FLOWER-STALK AND INFLORESCENCE.

The *Flower-stalk* or *Peduncle* is the more or less slender body by which the flower is connected with the stem or other parts of the plant. When it arises from the root, it is called a *Scape* or *Radical Peduncle* (Fig. 19.), as already mentioned. When it springs from the stem, it is

*Lateral*, when situated on the side.

*Terminal*, when it terminates a stem or branch.

*Axillary*, when it grows between a leaf and the stem, or between a branch and the stem.

*Opposite* to a leaf, or to another flower-stalk.

*Solitary*, when there is only one in the same place.

*Clustered*, when several grow together.

*Scattered*, irregularly distributed.

A Flower-stalk may be one-, two-, three-, or many-flowered.

When it is branched or otherwise divided, the principal stalk is called the *General* flower-stalk or *Peduncle*; the ultimate divisions are *Partial* flower-stalks or *Pedicles*.

When the flowers are destitute of stalks, they are said to be *Sessile*, or sitting.

The *Inflorescence* is a term used to denote the particular way in which the flower-stalk is divided. The following kinds are described :

1. The *Whorl* or *Verticil* (Fig. 93.), consists of several flowers which encircle the stem, in the same manner as whorled leaves (Fig. 26.), whether they be furnished with stalks, or, as is more commonly the case, sessile.
2. The *Spike* (Fig. 94, 95.), is that kind of inflorescence in which numerous flowers are ranged along a common stalk, without any partial stalks, or only very short ones. The spike may be lateral, axillar, or terminal, according to its position. It is also described, according to its general form, as being egg-shaped, cylindrical, &c. When the flowers all lean to one side, it is called *one-rowed* or *unilateral*, as in Fig. 94. When they are arranged along two sides, it is called *distichous* or *two-rowed*. When subdivided into lesser spikes, it is said to be *compound*.

The *Spikelet* (Fig. 96.) is a term applied peculiarly to grasses which have many flowers arranged on a stalk, within a kind of common calyx, composed of two thin bracteas.

3. The *Cluster* or *Raceme* (Fig. 97, 98.) consists of numerous flowers, each on a stalk of its own, arranged along a common stalk. The principal difference between the raceme and the spike is, that in the latter the flowers are nearly or entirely sessile and close, while in the former they are more or less stalked and somewhat distant from each other. The cluster may be one-rowed, simple, compound, erect, pendulous, &c.

4. The *Corymb* (Fig. 99.) is an erect cluster, the partial stalks of which are gradually longer as they stand lower on the common stalk, so that the flowers are nearly level.

5. The *Bundle* or *Fasciculus* (Fig. 100.), consists of several flower-stalks of equal height, arising at the end of the stem, variously inserted and subdivided, and forming a close bundle.

6. The *Head* or *Capitulum* (Fig. 101.) bears the flowers sessile in a globular or ovate form. It is merely a condensed spike or raceme.

7. The *Umbel* consists of a number of flower-stalks of nearly equal length, rising from one common centre or point, their summits forming a level or convex surface. When the stalks are simple and single-flowered, it is called a *Simple Umbel*. (Fig. 102.) When the summit of each stalk sends out a number of smaller stalks, similarly arranged, it is called a *Compound Umbel* (Fig. 89.); in which case the first stalks are collectively

called the *General* umbel, and the smaller sets the *Partial* umbels, or *Umbellules*.

8. The *Cyme* (Fig. 103.) is that kind of inflorescence which has the general appearance of an umbel, but in which the principal stalks only spring from a common centre, while the others are variously and alternately subdivided. ••

9. The *Panicle* (Fig. 104.) bears the flowers in a kind of loose subdivided cluster. Or it may be defined a raceme, of which the partial stalks are subdivided. It presents the following varieties :

*Loose* or *Lax*, when the stalks are distant.

*Close*, when they are placed near each other.

*Crowded*, when very close.

*Spreading*, when the branches spread out on all sides.

10. The *Thyrus*, or *Bunch*, is a close panicle, having an oval form.

11. The *Cathin* (Fig. 105.) is a long simple stalk, thickly covered with scales, or bracteas, under which are the flowers, or their essential parts.

#### OF THE FLOWERS AND FRUIT.

The Organs, of which the principal modifications are above defined, being subservient to the growth of the individual, are named Organs of Nutrition, as already mentioned. Those which we have now to examine are the Organs of Reproduction.

The Flower and Fruit are generally termed the *Fructification*, which Linnæus defines “a temporary part of vegetables, destined for the reproduction of the species, terminating the old individual, and beginning the new.” There are distinguished seven parts of fructification, some of which however are not of universal occurrence. These seven parts are the Calyx, the Corolla, the Nectary, the Stamens, the Pistils, the Seed-vessel, the Seed, and the Receptacle. The seed, the pistil, and the stamen, are the most essential parts. The receptacle is always present ; but the corolla and the calyx are frequently wanting.

Fig. 106 shews four seeds, or rather four single-seeded seed-vessels, in the bottom of a calyx.

Fig. 107 shews a seed-vessel and a calyx.

Fig. 108 shews a style, *a*, with six stamens.

Fig. 109 shews a corolla, *a*, and a calyx, *b*.

The Receptacle is the point of union of these parts, or the top of the flower-stalk.

The Nectary is various, and will be afterwards shewn.

### I. Of the Calyx.

The *Calyx* or *Flower-cup* forms the outer part or covering of the flower. It may be of one or of several pieces or leaves, and is generally of a green colour. It is sometimes wanting, in which case the flower is said to be naked. Several varieties of the calyx are distinguished.

1. The *Perianth* or Calyx properly so called (Fig. 109, *b.* 110, *a.*) is contiguous to the corolla or other internal parts of the flower, closely investing them. But by this term is now often meant the covering of the stamen and pistils, or the Calyx and the Corolla. The following varieties may be mentioned.

A *simple Calyx*, when there is only one, as is generally the case.

*Double* (Fig. 111.), when there are two, or rather two sets of leaves.

*One-leaved* or *of one leaf*, *Monophyllous*, or *Monosepalous*, the pieces or leaves of the calyx being called *Sepals* (Fig. 112.) when it consists of a single piece, which however may be variously divided; in which case the divisions are called *segments*, and when small *teeth*.

*Two-, three-, four-, or five-leaved*, or *many-leaved*, when it consists of so many distinct pieces or leaves: *Disepalous*, *Tri-sepalous*, *Tetrasepalous*, *Pentasepalous*, *Polysepalous*.

*Entire*, when a one-leaved calyx has no divisions.

*Tubular*, when cylindrical towards the base.

*Spreading*, when the leaves or segments stand out horizontally.

*Reflected*, when they are bent back.

*Erect*, when they stand upright.

*Permanent* or *Persistent*, when it remains till the fruit is ripe.

*Deciduous*, when it falls off before the fruit is ripe.

*Caducous*, or *Fugacious*, when it falls off before the corolla.

*Coloured*, when of any other colour than green.

2. The *Common Calyx* (Fig. 113.) is one which contains a great number of flowers, which are placed so closely together that the whole appears like a single flower. This kind of calyx generally consists of several pieces or leaves, which are in fact

**bracteas.** Properly speaking, this is not a calyx, but an *Involute* of a particular kind, investing an expanded receptacle, on which are placed numerous small flowers. It is

*Simple*, when the flowers are surrounded by a single row of leaves.

*Double*, when the flowers are surrounded by two rows of leaves.

*Equal*, when in a simple calyx of this kind the leaves are all of equal length.

*Imbricated* (Fig. 113, 114.), when the common calyx consists of numerous imbricated leaves or scales, one lying close above another.

*Spherical, Globose, or Globular* (Fig. 113.), when it has the form of a sphere or ball.

*Hemispherical* (Fig. 114.), when round below and flat above.

*Egg-shaped*, when of the form of an egg.

*Cylindrical*, when long and round.

*Flat*, when the scales are spread out.

The scales or leaves of the common calyx are described in the same manner as leaves. Thus they may be egg-shaped, lance-shaped, fringed, thorny or spinous, &c.

3. The *Scales* of the Catkin (Fig. 105.) are considered as bracteas, analogous to leaves of a calyx. (Fig. 115.)

4. The *Outer Husk* or *Chaff-scale* (Fig. 116.) is what may be considered the peculiar calyx of grasses, and plants allied to them. It may be *single*, of one piece or scale; of two, three, or more pieces. It may be egg-shaped, lance-shaped, keeled, acute, &c.

## II. Of the Corolla.

The *Corolla* or *Blossom* is the envelope of coloured and delicate leaves, always internal with respect to the calyx, and surrounding the stamens and other essential parts. The leaves or pieces of which it is composed are called *Petals*. When it appears to consist of one piece only, it is called *Monopetalous*, or in common language a corolla of one petal. Corollas are seen in Fig. 87 *a*, 109 *a*, 110 *b*.

The corolla of grasses consists of one or two pieces called *husks* or *glumes* (Fig. 116, *b*, *b*.), resembling the chaff-scales. There is frequently appended to them a hard elongated body called the awn (Fig. 96.), which is often twisted.



The *Monopetalous Corolla* (Fig. 117.) consists of two parts : the *tube* (*a.*), the narrow part generally enclosed in the calyx ; and the *limb* (*b.*), the expanded part. The following varieties of this kind of corolla may be mentioned :

*Strap-shaped*, narrow and flat, unless at the base.

*Tubular* (Fig. 118.), consisting of a single piece, hollow and of nearly equal thickness ; this term, however, is used with great latitude, and, in the compound flowers, applies to corollas of various forms.

*Spherical* or *Globose* (Fig. 119.), narrow above and below, and enlarged in the middle.

*Bell-shaped* or *Campanulate* (Fig. 120.), having the form of a bell, with the margin bent back.

*Cup-shaped* (Fig. 121.), of nearly the same form, with the margin straight.

*Funnel-shaped* or *Infundibuliform* (Fig. 122.), inversely conical.

*Salver-shaped* or *Hypocrateriform* (Fig. 117.), when the tube is cylindrical, but very long, and the limb expanded.

*Wheel-shaped* or *Rotate*, the same as salver-shaped, with the tube very short.

*Ringent* or *Gaping* (Fig. 123.), when the limb is divided into two parts, the upper more or less arched, the under oblong ; these parts are called *lips*.

*Personate* or *Masked* (Fig. 124.), when the limb is divided into two parts, which are closely pressed together, the throat being thus closed.

The *Polypetalous Corolla* consists of 'two or more distinct pieces or *Petals*. In each petal there are distinguished two parts : the *claw* or *unguis* (Fig. 125, *a.*) which is the narrow portion ; and the *border* or *lamina* (Fig. 125, *b.*), the expanded parts. The following are the principal kinds :

*Cruciform* or *Cross-like* (Fig. 126.), when four petals, having long claws, stand opposite to each other in pairs.

*Rosaceous* (Fig. 127.), roundish petals, destitute of claws, spread out in the form of a rose.

*Papilionaceous* or *Butterfly-like* (Fig. 128.) when five petals, differing in form, stand together. These different petals have particular names. The uppermost, which is commonly the largest, is named the *standard* or *vexillum*. (Fig. 129.) The two side petals, standing opposite to each other, are the *wings* or *alæ*. (Fig. 130.) The two undermost petals form the *keel* or *carina*. (Fig. 131.)

The Corolla is called *regular*, when its general form is uniform, as in Fig. 127, 126, 117; *irregular*, when this is not the case, as in Fig. 123, 124. An *equal* corolla is regular, and has its divisions all of one size, as in Fig. 117, 120.

### III. Of the Nectary.

The *Nectary* is that part of the flower which contains or secretes honey. In monopetalous flowers, this part is the tube of the corolla. Sometimes it is a production of the corolla, and sometimes of the calyx. In other cases it is a part distinct from either. The following kinds may be mentioned :

The *Spur* (Fig. 132.) is a horn-shaped production of the corolla.

*Scales*, on the petals.

*Pores*, or small holes, which occur on various parts of the flower.

*Glands*, or soft roundish bodies.

### IV. Of the Stamens.

The *Stamens* are essential parts of the flower, consisting each of a bag filled with a kind of powder, generally supported upon a stalk. There are thus distinguished three parts in the stamen : the filament, the anther, and the pollen.

1. The *Filament* (Fig. 133, *a.*) is a longish body destined for the support of the anther. It varies greatly in form, being

*Hair-like* or *Capillary*, of equal thickness throughout, and as fine as a hair.

*Thread-like* or *Filiform*, thicker than a hair.

*Awl-shaped* or *Subulate*, thicker below than above.

*Dilated*, compressed and expanded on the sides.

*Connate* or *United*, when several filaments adhere together.

*Incurved*, bent towards each other.

*Recurved*, bent outwards.

*Equal*, when all are of equal length ; and *Unequal*, when some are longer than the others.

2. The *Anther* (Fig. 133, *b.*) is a hollow cellular body, containing a quantity of *pollen* or dust. It is commonly oblong, but varies greatly in form, being linear, globular, kidney-shaped, arrow-shaped, &c. It may also be cleft at the extremities, awned, one-celled, two-celled, &c.

*Connate*, when several grow together, forming a tube.

*Erect* (Fig. 133.), when it stands with its base straight on the point of the filament.

*Incumbent* (Fig. 134.), lying across the top of the filament.

*Lateral* (Fig. 135.), attached by its side.

*Sessile*, destitute of filament.

3. The *Pollen* is contained in the anther. At a certain stage of vegetation, the anther bursts, and the pollen is scattered around. Some of the grains adhere to the stigma or summit of the pistil, in consequence of which the young seeds begin to enlarge, and are rendered capable of giving rise to new plants. This action of the pollen is termed *Fecundation* or *Impregnation*. Without it the seeds would either not enlarge, or when full-grown would be incapable of germinating.

## V. Of the Pistils.

The Pistil (Fig. 136.) is also an essential part of the flower, occupying its centre. It consists of three parts, the germen, the style, and the stigma.

1. The *Germen* or *Ovary* (Fig. 136, *a.*) is the undermost part of the pistil, and is the rudiment of the fruit. The number of germens varies, like that of the stamens. It is also of various forms: egg-shaped, globular, elliptical, &c. It may also be

*Superior*, when situated above the corolla or calyx.

*Inferior*, when situated below these parts, or rather when these parts adhere to its sides, so as to be incorporated with it, and not to separate until they have reached its summit.

*Sessile*, when destitute of a stalk; or *Stalked*, when supported upon one.

2. The *Style* (Fig. 136, *b.*), is a small stalk, seated upon the germen, and terminated by the stigma. It may be hair-like, thread-shaped, awl-shaped, &c.

*Terminal*, when it stands on the top of the germen.

*Lateral*, when attached to the side.

*Erect*, standing straight; *spreading*, *recurved*, &c.

*Persistent*, remaining after the fruit is matured.

3. The *Stigma* (Fig. 136, *c.*), is the top of the style, which is generally enlarged. It varies greatly in form, and is variously lobed or divided. It is frequently downy, and always more or less moist. The pollen falling upon the stigma, influences the seeds contained in the germen, so that they become capable of attaining maturity.

VI. *The Fruit.*

The Fruit is the germen or ovary arrived at maturity. It is composed essentially of two parts, the *Pericarp* or *Seed-vessel*, and the *Seed*. Many fruits, of small size, and having the pericarp closely enveloping the seed, were considered by Linnæus and others as *naked seeds*, but are now known to be true fruits, and not merely seeds. In the description of plants, however, as a matter of convenience, these small hard fruits are usually called *naked seeds*. The only naked seeds known, however, are confined to the Pines, Firs, and Cycases.

The *Pericarp*, or part which immediately invests the seed or seeds, and originally formed the germen or ovary, varies extremely in size, thickness, and texture. It is always formed of three parts: the *Epicarp*, *Mesocarp*, and *Endocarp*. The *Epicarp*, is an external thin membrane or skin; the *Mesocarp*, is the layer immediately under the epicarp, and may be thin or thick, dry or juicy; the *Endocarp*, is the innermost membrane, varying in texture, and bounding the cavity which contains the seed. Thus, in the Cherry, the glossy skin is the *Epicarp*; the pulpy mass is the *Mesocarp*, and the hard shell covering the seed is the *Endocarp*.

Of the very numerous varieties of Fruits, the following may be mentioned:

1. The *Capsule* (Fig. 137.) is a dry seed-vessel, generally of a membranous texture. It frequently splits in a regular manner into several parts when ripe. These parts are called *valves*. Internally it consists of a single cavity, in which case it is called one-celled or unilocular; or of two or more cavities. These cavities or cells are separated by *partitions* or *dissepiments*; and there is often a central stalk or *column*, to which the seeds are attached.

2. The *Pod* or *Siliqua* (Fig. 138.) is a long dry seed-vessel, of two pieces or valves, separated by a longitudinal partition, to the edges of which the seeds are alternately attached. When the Pod is as broad as long, it is called a *Pouch* or *Silicula*, as in Fig. 139.

3. The *Legume* (Fig. 140.) is a dry elongated seed-vessel, formed of two oblong valves, without any longitudinal partition, and bearing the seeds along one of its margins only.

4. The *Nut* (Fig. 141.) is a seed covered with a hard pericarp or *shell* which does not burst. The seed is called the *kernel*.

5. The *Drupe* (Fig. 142.) is a seed, covered with a hard endocarp, a fleshy mesocarp, and a membranous epicarp.

6. The *Apple* (Fig. 143.) is a fleshy fruit, containing a capsule, or rather it is an enlarged fleshy calyx inclosing a membranous or cartilaginous pericarp, divided into several cavities, containing one or more seeds.

7. The *Berry* (Fig. 144.) is a juicy fruit, which contains several seeds, and never bursts. The *Compound Berry* (Fig. 145.) consists of several single ones, each containing a seed.

The *Cone* or *Strobilus* (Fig. 146, 147.) is a catkin hardened and enlarged.

## VII. *Of the Seed.*

The *Seed* is the part of the plant which is destined for its propagation. It often consists of two halves, called *cotyledons* (Fig. 148.), which at germination change into leaves. Between these, on one side, is the *Embryo* (Fig. 148, *a.*), consisting of two bodies, one which descends into the earth, becoming a root, and is called the *Radicle* (Fig. 143, *b.*), the other, or *Caulicle*, ascending and becoming the stem and leaves. (Fig. 148, *c.*) The cotyledons are covered with an *outer* and an *inner* coat. The depression seen externally opposite the place where the embryo lies, is called the *scar*. The seed while growing is attached to the parent plant by a thread called the *umbilical cord*.

But many seeds have only one cotyledon, which envelopes the embryo; and others have no cotyledon at all. Hence an arrangement of plants into *Acotyledonous*, *Monocotyledonous*, *Dicotyledonous*, or having no cotyledon, one cotyledon, or two cotyledons.

Seeds are very diversified as to form, but it is only necessary here to describe certain parts which are frequently attached to them.

The *Pappus* or *Seed-down* is a kind of bristly or feathery crown attached to certain seeds or rather fruits. It is, analogous to the calyx of other plants,

*Simple* (Fig. 149.), when it consists of undivided hairs.

*Feathery* (Fig. 151.), when each of the hairs is subdivided like the shaft of a feather.

*Sessile*, without a stalk. (Fig. 149.)

*Stipitate* or *Stalked*. (Fig. 150.)

*Chaffy*, when formed of small scales.

The *Tail* (Fig. 152.) is an elongated appendage formed of the permanent style.

The *Wing* (Fig. 153.) is a dilated membranous appendage.

In concluding the subject of the flowers and fruit, it is necessary to mention a few additional circumstances respecting them.

A *complete* flower is one furnished with both calyx and corolla.

An *incomplete* flower is when the corolla is wanting.

A *naked* flower is one destitute of a calyx.

A *perfect* flower is one having both stamens and pistils.

A *stameniferous* or *barren* flower is one having stamens, but destitute of pistils.

A *pistilliferous* or *fertile* flower is one having pistils, but no stamens.

A *neutral* flower is one destitute of both stamens and pistils.

Plants are called *monœcious*, when stameniferous flowers and pistilliferous flowers exist on the same plant.

*Dicœcious* plants are those in which pistilliferous flowers grow on one plant, and stameniferous flowers grow on another plant of the same species.

A *simple* flower is when a single flower is contained in a calyx.

A *compound* flower is when a number of flowers, with united anthers, grow together within a common calyx or rather involucre.

An *aggregate* flower, is when a number of flowers, generally stalked, and with separated anthers, are inclosed within a common calyx.

### VIII. *Of the Receptacle.*

The *Receptacle* is the point at which all the parts of a flower meet.

In the compound flowers this part is broad, and requires particular consideration. It is in them

*Flat*, when perfectly even. (Fig. 154.)

*Convex* or *Concave*.

*Conical*, when it rises in the centre. (Fig. 155.)

*Smooth*, destitute of hairs; *Hairy*, covered with hairs; or *Chaffy*, covered with membranous scales.

## CLASSIFICATION AND DESCRIPTION

OF •

## P L A N T S.

PLANTS are so numerous and diversified that it is impossible to acquire any extensive knowledge of them, or even to retain their names, without the aid of arrangement or classification. Plants may be arranged in two ways. Every one on looking around him in the vegetable world, must perceive that certain plants have so great a resemblance to each other, that they naturally form themselves in the mind into groups. Thus the grasses form a natural family, the leguminous plants another, and so forth. Were the natural affinities of all plants as readily perceived, it would be easy to distribute them into classes ; but this is not the case. For this reason, the *Natural* arrangement has been substituted by another, called the *Artificial*, which, although it does not proceed upon the principle of natural affinities, yet frequently places together plants which resemble each other in their structure and appearance. The artificial arrangement usually adopted by botanists is that of Linnæus.

All the *individuals* which bear a particular and intimate resemblance to each other, constitute a *species*, whether among plants or among animals. Thus, as the latter are generally better known, all the Foxes in the world, of that kind which Englishmen are notorious for chasing with hounds, constitute the species Fox, or Common Fox. All the species which bear a certain more general resemblance to each other constitute a *genus*. Thus the Fox species, the Jackal species, the Wolf species, and the Domestic Dog species, with several others, constitute the genus Dog. All the genera which bear a certain more general resemblance to each other, constitute an *order*.

Thus, the dog genus, the hyena genus, the cat genus, and others, constitute the order *Feræ*, or Beasts of Prey. All the orders that resemble each other in certain more general characters, constitute a *class*. Thus the orders *Feræ*, Ruminating animals, Four-handed animals or Mopkeys, and others, form the class *Mammalia*. So it is with plants.\*

There are thus, in the Linnæan method, four degrees in classification: the Class, the Order, the Genus, and the Species. The latter, by certain accidental causes, produces *Varieties*. Thus, in animals, the greyhound, the spaniel, and the sheep-dog, are varieties of the Dog species; and in plants, the numerous kinds of apples are produced by varieties of the Crab-Apple Tree.

The LINNÆAN CLASSES of PLANTS are twenty-four, and their distinctions are founded upon the number, situation, and proportion, of the stamens.

The first eleven Classes are characterized solely by the *number* of the stamens, and have Greek names expressive of these distinctions. Linnæus, in his fanciful way, considered the stamens as gentlemen, and the pistils as ladies.

- |                   |   |
|-------------------|---|
| 1. MONA'NDRIA.    | This class includes all plants having a single stamen in each of their flowers; monandria literally signifying one man. |
| 2. DIA'NDRIA.     | Two stamens in each flower.   |
| 3. TRIA'NDRIA.    | Three stamens.  |
| 4. TETRA'NDRIA.   | Four stamens.   |
| 5. PENTA'NDRIA.   | Five stamens.   |
| 6. HEXA'NDRIA.    | Six stamens.  |
| 7. HEPTA'NDRIA.   | Seven stamens.  |
| 8. OCTA'NDRIA.    | Eight stamens.  |
| 9. ENNEA'NDRIA.   | Nine stamens.   |
| 10. DECA'NDRIA.   | Ten stamens.  |
| 11. DODECA'NDRIA. | From twelve to nineteen stamens.  |

The next two classes differ from each other with respect to the *situation* of the stamens.

- |                  |   |
|------------------|---|
| 12. ICOSA'NDRIA. | Twenty or more stamens inserted into the calyx.                                 |
| 13. POLYA'NDRIA. | Twenty or more stamens inserted into the receptacle or top of the flower-stalk. |



In the next two *proportion* is employed.

14. DIDYNA'MIA. Two long and two short stamens.  
 15. TETRADYNA'MIA. Four long and two short stamens.

The next three have united filaments.

16. MONADE'LPHIA. Stamens united by their filaments into a tube.  
 17. DIADEL'PHIA. Stamens united into two sets.  
 18. POLYADE'LPHIA. Stamens united into three or more sets.

The next five are founded upon various circumstances.

19. SYNGENE'SIA. Stamens united by their anthers into a tube, the flowers compound.  
 20. GYNA'NDRIA. Stamens united to the pistil.  
 21. MONCE'CIA. Stamens and pistils in separate flowers, but both kinds of flowers growing on the same plant.  
 22. DICE'CIA. • Stameniferous flowers on one plant, and pistilliferous flowers on another plant, of the same species.  
 23. POLYGA'MIA. Stameniferous flowers, pistilliferous flowers, and perfect flowers, all growing on the same plant, or on different plants of the same kind.

The last class consists of plants whose organs of fructification are not well ascertained, or differ greatly from those of the preceding classes:

24. CRYPTOGA'MIA.

The *Orders* in the first thirteen classes are founded on the number of the styles, or stigmas, and are named as follows:

- MONOGY'NIA. One style, or sessile stigma.  
 DIGY'NIA. Two styles, or sessile stigmas.  
 TRIGY'NIA. Three styles.  
 TETRAGY'NIA. Four styles.  
 PENTAGY'NIA. Five styles.  
 HEXAGY'NIA. Six styles.  
 HEPTAGY'NIA. Seven styles.  
 OCTAGY'NIA. Eight styles.  
 ENNEAGY'NIA. Nine styles.  
 DECAGY'NIA. Ten styles.

DO'DECAGY'NIA.      About twelve styles.

POLYGY'NIA.        More than twelve styles.

It is unnecessary here to explain the orders of the other classes, as the circumstances on which they are founded will be seen by referring to the following Systematic Arrangement of British Plants.

The *Genera* are characterized by marks taken from the parts of fructification exclusively, that is, from the calyx, corolla, stamens, pistils, fruit, seed, nectary, and receptacle.

The *Species* are distinguished from each other by characters taken from any or all the parts of the plant.

The *Generic Character* is of two kinds: the *essential*, which is short, and consists of the more distinctive circumstances; and the *natural*, which consists of a more or less full description of all the organs of fructification.

The *Specific Character* is brief, and consists of the circumstances by which one species is distinguished from every other of the same genus.

An arrangement of the genera of British Plants according to the Natural Method will be found at the end, after the Glossary and Index.

## METHOD OF EXAMINING PLANTS.

IN the following arrangement of British Plants, there is a brief description of each species, by an attentive comparison of which with the plants that one may pick up, he will be enabled to discover their names. The whole are arranged into classes, genera, and species, according to the Linnæan system. We shall suppose that a person commencing the study of British plants, and having made himself acquainted with the different parts of vegetables described and illustrated by figures in the preceding pages, falls in with a specimen of the plant figured in pl. x. fig. 156.

He has first to glance over the whole plant, beginning with the root and examining all its parts in succession. He will thus find that the root is fibrous; the stem creeping at the base, simple, ascending obliquely, and having a line of hairs on each side; the leaves egg-shaped, sessile, wrinkled, deeply serrated, and more or less hairy, the clusters of flowers lateral, axillar, rising higher than the stem, and having their stalks hairy all round, with lance-shaped bracteas; the flowers numerous, with a calyx consisting of four lance-shaped segments, a very beautiful, large, bright-blue corolla, marked with darker lines, and pale-purple on the back, monopetalous, wheel-shaped, divided into four segments, of which the upper is the largest, and the lower the least; two anthers attached to the corolla; a germen crowned by a single thread-shaped style; and an inversely heart-shaped, compressed capsule, of two cells and four valves, containing numerous roundish seeds.

As there are two stamens, the young botanist turns over the leaves to the class *Diandria*; and as there is only one style, he

refers the plant to the order *Monogynia*. In the table of short essential generic characters, he finds that there are ten genera mentioned, namely: *Ligustrum*, *Fraxinus*, *Veronica*, *Pinguicula*, *Utricularia*, *Lycopus*, *Salvia*, *Circæa*, *Lemna*, and *Cladium*. He has therefore to find which of these corresponds with his plant. But he observes that there are four divisions marked by asterisks, under which these genera are grouped. He therefore reads the characters of these divisions, and finds that his plant cannot belong to the first, for although it has the flowers inferior, that is, has the calyx and corolla placed under the germen, and monopetalous, yet the corolla is not regular, that is, does not present equal segments. Passing to the next division, he finds it to agree with the plant. He has now to compare it with the characters of the three genera included in this division, and finds it to correspond with those of *Veronica*, inasmuch as it has a "wheel-shaped, deeply four-cleft corolla," with the "lower segment smaller," and a "two-celled capsule." The plant therefore belongs to the genus of which *Veronica* is the name.

In the tables at the head of each class, the genera are placed according to certain circumstances connected with their artificial arrangement, but are numbered with reference to the order in which they are afterwards more fully described, and which is in some degree that of their natural affinity.

The species is now to be found, and for this purpose he turns over a few leaves, until he comes to the 4th genus of the class, viz. *Veronica*, where he finds the natural character of the genus, or a particular description of the parts of fructification, which he compares with his plant, and finding them to agree, is satisfied as to the genus. He finds a great number of species described, all of which he would have to compare with his plant until he found one to agree with it, were it not that here, as in the generic table, there are subdivisions, to which asterisks are prefixed, that shorten his labour. To the first of these divisions the plant does not belong, for its flowers are not in *terminal*, but in lateral clusters. He therefore passes on to the next division: *flowers in lateral clusters or spikes*, and as his plant has such flowers, he has only to read the specific characters under that division. . .

*V. Beccabunga* has elliptical leaves; *V. Anagallis* has them lance-shaped; in *V. Scutellata* they are oblong; and therefore it cannot belong to these species. In *V. Montana*, the leaves are egg-shaped, which is the case with the plant in hand, but

they are stalked, whereas in the plant under examination they are sessile. In *V. Chamædrys*, they are egg-shaped and sessile, in which respects they agree; deeply serrate also, which is the case; and the stem has two opposite rows of long hairs, which was a circumstance that attracted our notice at our first inspection of the plant. The name of the plant therefore is *Veronica Chamædrys*, the latter word being its *specific*, the former its *generic* name. Its English name is seen to be *Germander Speedwell*.

The words "Clusters many-flowered; leaves egg-shaped, sessile, deeply serrate; stem with two opposite rows of long white hairs," form the *specific character*. After it a brief description of certain parts of the plant is given, together with an indication of its duration, time of flowering, place of growth, and sometimes its uses. Reference is then made to a figure of it in Sir J. E. Smith's *English Botany*, and to a fuller description in the *English Flora* of the same author.

In this manner, the student proceeds with every plant that he may procure. The assistance of a person already somewhat proficient in the science, will be useful at the commencement, but is not indispensable. Sometimes a plant may present itself which is not found to belong to the class or order indicated by its stamens and style. In this case there will be found a reference in Italics, at the end of the generic table, to certain genera, by turning to which it will be found. Thus, a plant occurs with one stamen and one style, which we do not find to correspond with the genera *Salicornia*, *Hippuris*, *Zostera*, or *Charg.* But we observe, after these genera in the table, reference made to several plants, of which the first is *Valeriana rubra*. We then turn to the Index for *Valeriana*, and finding that genus at the page indicated, compare our plant with the species, *V. rubra*, when we find it to agree. This is one of the most puzzling circumstances connected with the examination of plants, and arises from the impropriety of separating a species from others of the same genus, although it may happen to differ in the number of stamens or pistils.

With these explanations, it is presumed that the student will be enabled to use the following descriptive arrangement of British Plants. Should a term occur, not included in the preceding account of the parts of plants, it will be found by referring to the glossary at the end of the volume.

The only instruments necessary in the examination of plants with the view merely of finding out their names, are a sharp-

pointed pen-knife, or a pin, for separating the parts of fructification, and a small lens for inspecting the more minute parts.

The Generic and Specific names of plants being in Latin, it has been judged expedient, for the benefit of young botanists not acquainted with that language, to mark the accented syllables. The following rules for the pronounciation of these words may also be attended to :

1st. The diphthongs *æ* and *œ* are pronounced like the English long *e*.

2d. The letter *e* at the end of a word is always sounded.

3d. The letters *ch* are pronounced hard, like *k*.

4th. In words beginning with *sce* and *sci*, the *c* is soft.

5th. The letters *c* and *g* before *e* and *i*, and before *æ* and *œ*, are soft, but before other vowels hard. In words of Greek origin, however, it is customary with some to make the *g* always hard ; as in *Monogynia*, *Syngenesia*.

## DIRECTIONS

## PRESERVING PLANTS.

It is unnecessary to enumerate all the advantages resulting from the possession of a collection of preserved plants, as they can be fully appreciated only by a person who has made considerable progress in the study of Botany. But the beginner requires to be informed, that nothing can more materially aid him in his endeavours to become familiar with the objects which vegetation presents to his view, than such a collection, to which he can at all times refer, either for refreshing his memory, or for instituting a more minute examination than he had previously made. Plants are generally preserved by drying, and a collection of this kind is called a *Hortus Siccus* or *Herbarium*. Various methods are in use for drying plants, but the following, being among the most simple and efficacious, and attended with little difficulty, is here recommended.

The articles necessary for the accomplishment of the object in view are, a quantity of smooth, soft paper, of large size (16 quires perhaps); eight boards of the same size, about an inch thick, of hard wood; four iron weights or pieces of lead, two of them about forty pounds weight, the others half that number. Or in place of these weights a number of clean bricks may be used, or in short any heavy bodies of convenient form. Along with these articles, a botanical box or *vasculum* is necessary. This box is made of tin, and varies in size, from nine inches to two feet in length, according to the taste and avidity of the collector.

In gathering plants for this purpose, such as are smaller than the size of the paper are to be taken up roots and all. In many cases, portions only of plants can be preserved, on account of their size, and then the most essential parts are to be selected, including always the flowers. Plants to be preserved are to be gathered in dry weather, and immediately deposited in the tin box, which prevents their becoming shrivelled by evaporation. If gathered in wet weather, they must be laid out for some time on a table or elsewhere to undergo a partial drying. When roots have been taken up along with the stems, they ought to be first washed, and then exposed for some time to the air.

Let us now suppose that a dozen specimens are procured. Over one of the boards lay two or three sheets of the paper, on the uppermost of which spread out the plant to be dried, unfolding its various parts, not however so as to injure its natural appearance. A few of the flowers and leaves ought to be laid out with particular care. Over this specimen lay half a dozen sheets of paper, on the uppermost of which lay another plant as before, and so on successively, until the whole are disposed of. A few sheets are then laid upon the last, and a board placed over all.

Plants, viewed with reference to drying, may be divided into two classes, the one comprehending those which, being thin, soft, and flexible, require little pressure to reduce them to a level, the other including such as being stiff and thick require much pressure. Supposing the above plants to have been of the first class, we lay upon the upper board one of the smaller weights. A series of more stubborn specimens being, in like manner, placed between other two boards, we lay one of the larger weights upon them.

Should more specimens be collected next day, they are disposed of in the same manner; and thus successively. At the end of three days generally, the plants first laid in are to be taken out, together with the paper about them. They are to be laid in fresh paper, three or four sheets being placed between every two plants, and the whole put between two boards, with a weight over them. The second series is similarly treated next day, and so on. The paper from which the plants have been removed is to be dried for future use.

There will thus be four sets of plants; two in the first stage of drying, and two in the second stage. The plants of the second stage sets should be taken out about three days after they



have been deposited, and after dry paper has been put about them, returned to their places. The paper may thus be shifted until the plants be perfectly dry, when they are finally removed. Each plant is then placed in a sheet of dry paper, and along with it is deposited a slip of paper, on which are written the name of the plant, the place in which it was gathered, the time of gathering, the soil, and such other circumstances as may tend to elucidate the history of the species. Thus prepared, the plants are packed up in bundles, which gradually enlarge their dimensions, or increase in number, until the end of the season.

Having in this manner prepared a certain number of plants, the collector has now to arrange them. For this purpose he has to procure a quantity of good stout writing or printing paper of large size, folded in folio, which is to be stitched in coloured covers, making fasciculi of five or six sheets each. A quantity of finer paper, in half sheets, folio size, cut round the edges, is also to be at hand. Let a number of narrow slips of different lengths be cut from a piece of the same paper, and let some prepared isinglass or dissolved gum tragacanth or gum arabic be in readiness, together with a camel-hair pencil. Take a dried plant, lay it upon a leaf of the fine cut paper, then fasten it down by means of a few of the slips of paper, to which isinglass or gum has been applied, laid across the stem and some of the branches. Two or three slips are generally sufficient for a plant or specimen. In this manner all the dried plants destined to form part of the herbarium are treated. Write the name of each species on the top of the leaf, and transcribe the notice respecting the place in which it was gathered, &c. at the bottom. Then arrange the plants according to system, and lay one between every two pages of the fasciculi. The fasciculi are formed into bundles, by being laid alternately up and down upon each other, as they do not lie conveniently when the heads of the plants are all at the top of the bundle, because the stalks and roots are thicker than the flowers. These bundles, consisting each of ten fasciculi or so, may be covered by pieces of pasteboard tied by strings. The collection is kept on the shelves of a cabinet, or in a chest. To prevent the attacks of insects, it is necessary to place beside it a piece of sponge soaked full of rectified oil of turpentine; and to ensure it against decay from damp it ought to be kept in a dry and well-ventilated place.

The above is an orderly method of forming an herbarium;

but many other expedients are resorted to. Most plants dry sufficiently well between the leaves of old books, and many collectors save themselves the trouble of forming a neat collection, by huddling up their specimens in the least expensive or laborious manner.

Another method of putting up dried plants is the following: The specimens are fastened to leaves of stout paper of uniform size; the species are then arranged in order, and all those of the same genus are placed within one or more sheets of paper, on the outside of which the generic name is written. The generic fasciculi are then collected into bundles, on which are written the names of the classes and orders. Some persons keep their specimens loose within sheets of paper. This method is the most convenient for the minute examination of the plants, but has disadvantages which render it inexpedient in ordinary cases.

In fine, there is no mystery, nor even much art, in drying plants very perfectly, and putting them up very neatly. The skill and ingenuity requisite are slight compared with those applied in making anatomical preparations, or in preserving zoological specimens. Patience, constant attention, some taste, and a good deal of enthusiasm, will enable one to make, what however one seldom sees, a good herbarium.

## EXPLANATION OF THE PLATES.

### PLATE I.

- Fig. 1. A Fibrous Root.
- Fig. 2. A Creeping Root.
- Fig. 3. A Tapering or Spindle-shaped Root.
- Fig. 4. A Tuberous or Knobbed Root.
- Fig. 5. An Abrupt Root.
- Fig. 6. A Solid Bulb or Cormus, properly a kind of subterranean stem.
- Fig. 7. A Coated Bulb.
- Fig. 8. A Scaly Bulb.
- Fig. 9. A Granulated Root.
- Fig. 10. A forked or Dichotomous Stem.
- Fig. 11. A Runner.
- Fig. 12. A Clinging Stem.
- Fig. 13. A Twining Stem.
- Fig. 14. A Jointed Stem.
- Fig. 15. A Scaly Stem.

### PLATE II.

- Fig. 16. A Jointed Culm.
- Fig. 17. A Knotted Culm.
- Fig. 18. A Kneel or Geniculate Culm.
- Fig. 19. Scape or Flower-stalk, and Radical Leaves.
- Fig. 20. A Sessile or Sitting Leaf.
- Fig. 21. A Stalked Leaf.
- Fig. 22. Alternate Leaves.
- Fig. 23. Opposite Leaves, which are also Cauline.
- Fig. 24. Scattered Leaves; Cauline.
- Fig. 25. Clustered Leaves.
- Fig. 26. Whorled Leaves.
- Fig. 27. Fasciculate or Tufted Leaves.

- Fig. 28. Imbricated Leaves.
- Fig. 29. Decussated Leaves.
- Fig. 30. Embracing Leaf.
- Fig. 31. Connate Leaves.
- Fig. 32. Perfoliate Leaf.

### PLATE III.

- Fig. 33. Equitant or Riding Leaves.
- Fig. 34. Decurrent Leaf.
- Fig. 35. Peltate or Shield-shaped Leaf.
- Fig. 36. Egg-shaped, or Ovate Leaf; also Obtuse, and Entire.
- Fig. 37. Oval or Elliptical Leaf.
- Fig. 38. Spathulate Leaf.
- Fig. 39. Wedge-shaped Leaf.
- Fig. 40. Lance-shaped, Spear-shaped or Lanceolate.
- Fig. 41. Linear Leaf.
- Fig. 42. Triangular Leaf.
- Fig. 43. Kidney-shaped Leaf; also Entire.
- Fig. 44. Heart-shaped Leaf.
- Fig. 45. Arrow-shaped Leaf.
- Fig. 46. Halbert-shaped Leaf.
- Fig. 47. Pinnatifid Leaf.
- Fig. 48. Lyre-shaped Leaf.
- Fig. 49. Runcinate Leaf.

### PLATE IV.

- Fig. 50. Pectinate or Comblike Leaf.
- Fig. 51. Cleft Leaf.
- Fig. 52. Lobed Leaf.
- Fig. 53. Palmate Leaf.
- Fig. 54. Abrupt Leaf.
- Fig. 55. Retuse Leaf, also Undulated or Waved.
- Fig. 56. Notched Leaf.

- Fig. 57. Acute or Pointed Leaf.  
 Fig. 58. Acuminate or Taper-pointed Leaf.\*  
 Fig. 59. Bristle-pointed Leaf.  
 Fig. 60. Toothed Leaf.  
 Fig. 61. Serrated Leaf.  
 Fig. 62. Crenate or Notched Leaf.  
 Fig. 63. Gnawed or Jagged Leaf.  
 Fig. 64. Fringed Leaf.  
 Fig. 65. Prickly or Spinous Leaf.  
 Fig. 66. a. Revolute Leaf;  
 b. Involute Leaf.  
 Fig. 67. Veined Leaf.

## PLATE V.

- Fig. 68. A Ribbed Leaf.  
 Fig. 69. Plaited Leaf.  
 Fig. 70. Channelled Leaf.  
 Fig. 71. Keeled Leaf.  
 Fig. 72. Awl-shaped Leaf.  
 Fig. 73. Fingered or Digitate Leaf.  
 Fig. 74. Binate or Twin Leaf.  
 Fig. 75. Ternate Leaf.  
 Fig. 76. Pedate Leaf.  
 Fig. 77. Pinnate Leaf with a terminal leaflet: also oppositely pinnate, and pinnate in a lyrate manner.  
 Fig. 78. Pinnate with a Tendril; also oppositely pinnate.  
 Fig. 79. Abruptly Pinnate; also oppositely pinnate.  
 Fig. 80. Alternately Pinnate; also pinnate with a terminal leaflet.  
 Fig. 81. Bigeminate Leaf.  
 Fig. 82. Biternate Leaf.  
 Fig. 83. Bipinnate Leaf.  
 Fig. 84.\* Stipules and the base of a leaf.

## PLATE VI.

- Fig. 85. a. A Bractea or Floral Leaf.  
 Fig. 86. a. A Bractea.  
 Fig. 87. A Sheath or Spatha.  
 Fig. 88. An Involucre, at a distance from the flower.  
 Fig. 89. a. Common Involucre;  
 b. Partial Involucres.  
 Fig. 90. A Tendril or Cirrus.  
 Fig. 91. A Spine or Thorn.  
 Fig. 92. Prickles or Aculei.  
 Fig. 93. A Verticil or Whorl.

- Fig. 94. One-rowed or Unilateral Spike.  
 Fig. 95. Distichous or Two-rowed Spike.  
 Fig. 96. A Spikelet.  
 Fig. 97. A Cluster or Raceme.  
 Fig. 98. A Cluster.  
 Fig. 99. A Corymb.  
 Fig. 100. A Fasciculus or Bundle.  
 Fig. 101. A Head.  
 Fig. 102. A Simple Umbel.  
 Fig. 103. A Cyme.

## PLATE VII.

- Fig. 104. A Panicle.  
 Fig. 105. A Catkin.  
 Fig. 106. A Calyx with four Seeds.  
 Fig. 107. A Seed-vessel and a Calyx.  
 Fig. 108. A Style, and six Stamens.  
 Fig. 109. A Corolla, and Calyx.  
 Fig. 110. a. Calyx or Perianth;  
 b. Corolla.  
 Fig. 111. A Double Calyx, and a Corolla.  
 Fig. 112. One-leaved Calyx.  
 Fig. 113. Many-leaved Calyx or Involucre; also Spherical or Globular.  
 Fig. 114. Imbricated Calyx; also Hemispherical.  
 Fig. 115. Scale of a Catkin.  
 Fig. 116. a. Outer Husk, or Chaff-scale; b. Inner Husk or Corolla of a Grass.  
 Fig. 117. A Monopetalous Corolla; also Salver-shaped.  
 Fig. 118. A Tubular Corolla.  
 Fig. 119. A Spherical or Globose Corolla.  
 Fig. 120. A Bell-shaped Corolla.  
 Fig. 121. A Cup-shaped Corolla.  
 Fig. 122. A Funnel-shaped Corolla.  
 Fig. 123. A Ringent or Gaping Corolla.

## PLATE VIII.

- Fig. 124. A Personate or Masked Corolla.

- Fig. 125. A Petal ; a. the Claw  
b. the Border or Lamina.  
Fig. 126. A Cruciform Corolla.  
Fig. 127. A Rosaceous Corolla.  
Fig. 128. A Papilionaceous Corolla.  
Fig. 129. The Standard of a Papilionaceous Corolla.  
Fig. 130. Wing of a Papilionaceous Corolla.  
Fig. 131. Keel of a Papilionaceous Corolla.  
Fig. 132. A Spur.  
Fig. 133. a. The Filament ; b. the Anther.  
Fig. 134. Incumbent Anther.  
Fig. 135. Lateral Anther.  
Fig. 136. A Pistil ; a. the Germen or Ovary ; b. the Style ; c. the Stigma.  
Fig. 137. A Capsule.  
Fig. 138. A Pod or Siliqua.  
Fig. 139. A Pouch or Silicula.  
Fig. 140. A Legume.

## PLATE IX.

- Fig. 141. A Nut.  
Fig. 142. A Drupe.  
Fig. 143. An Apple.  
Fig. 144. A Berry.  
Fig. 145. A Compound Berry.  
Fig. 146. A Cone or Strobilus.  
Fig. 147. Longitudinal Section of a Cone.

Fig. 148. Two Cotyledons of a Bean.

- a. The Embryo.  
b. The Radicle.  
c. The Caulicle.

Fig. 149. Simple Pappus : also Sessile.

Fig. 150. Stipitate or Stalked Pappus.

Fig. 151. Feathery Pappus.

Fig. 152. The Tail of a Seed.

Fig. 153. The Wing of a Seed.

Fig. 154. A Flat Receptacle.

Fig. 155. A Conical Receptacle.

## PLATE X.

*Veronica Chamædrys*, having the  
Root fibrous ;  
Stem creeping at the base, simple, ascending, with a line of hairs on each side ;  
Leaves egg-shaped, sessile, wrinkled, serrate, hairy ;  
Clusters lateral, axillar, rising higher than the stem, and with their stalks hairy ;  
Stipules lance-shaped ;  
Flowers numerous, with a calyx consisting of four segments ; a corolla with four unequal segments, monopetalous, and wheel-shaped ;  
Anthers two ;  
One Pistil ;  
Capsule inversely heart-shaped, compressed.

# SYSTEMATIC ARRANGEMENT OF BRITISH PLANTS.

## CLASS I. MONANDRIA.

*Plants bearing Flowers with one Stamen only.*

### Order I. MONOGYNIA. *One Pistil.*

1. SALICORNIA. *Calyx* tumid, undivided. *Corolla* none. *Stamens* one or two. *Seed* one, invested by the calyx.
2. HIPPURIS. *Calyx* obsolete. *Corolla* none. *Stigma* one, simple. *Seed* one, inferior.
3. ZOSTERA. *Spadix* linear, many-flowered. *Calyx* none. *Corolla* none. *Stigmas* two, linear. *Nut* with one kernel.
4. CHA'RA. *Calyx* none. *Corolla* none. *Berry* many-seeded.  
(*Valeriana rubra*. *Alchemilla arvensis*. Several species of *Salix*.)

### Order II. DIGYNIA. *Two Pistils.*

5. CALLITRICHE. *Calyx* none. *Petals* two, inferior. *Seeds* four, naked, compressed. Some flowers pistilliferous and others stameniferous only.

## MONANDRIA.—MONOGYNIA.

### 1. SALICORNIA. SALTWORT.

*Calyx* inferior, of one leaf, undivided, tumid, permanent. *Corolla* none. *Filament* one or two, longer than the calyx. *Anther* oblong, two-lobed, erect. *Germen* egg-shaped, under the stamen. *Style* short, undivided; stigma cleft. *Seed* egg-shaped, invested by the calyx.—Name from *sal*, salt, and *cornu*, a horn. 1.

1. *S. herbacea*. *Common Jointed Glasswort* or *Saltwort*. *Marsh Samphire*. Stem herbaceous, erect; joints compressed, notched, their intervals somewhat enlarged upwards; spikes slightly tapering upwards.—One foot high; stem bushy, green, the branches nearly cylindrical; spikes of numerous short joints, each bearing three sessile flowers on two opposite sides. Annual: flowers in August and September: grows on muddy or moist sandy sea-shores: frequent in England and Ireland, not common in Scotland. Has a saltish taste, is eaten by cattle, and makes a good pickle. The various species

of this genus are employed on the coasts of the Mediterranean for making Barilla. *Eng. Bot.* vol. vi. pl. 415. *Eng. Fl.* vol. i. p. 2. A variety with procumbent stems has been described as a distinct species, under the name of *S. procumbens*. *Eng. Bot.* vol. xxxv. pl. 2475. *Eng. Fl.* vol. i. p. 2. 1.

2. *S. riddicans*. *Creeping Jointed Glasswort* or *Saltwort*. Stem woody, procumbent and rooting at the base, erect above; joints compressed, notched, their intervals somewhat cylindrical; spikes oblong; stamens two.—About a foot long: upper part of the stem herbaceous and erect with opposite branches; spikes obtuse: stigma deeply divided into two or three segments. Perennial: flowers in August and September: grows on muddy sea-shores: not frequent. *Eng. Bot.* vol. xxiv. pl. 1691. *Eng. Fl.* vol. i. p. 3. 2.

### 2. HIPPURIS. MARE'S-TAIL.

Calyx a mere border, crowning the germen. Corolla none. Filament superior, longer than the calyx. Anther two-lobed, compressed. Style awl-shaped. Stigma simple, acute. Seed oval, naked.—Name from *hippos*, a horse, and *oura*, a tail. 2.

1. *H. vulgaris*. *Mare's-tail*. Leaves linear, in whorls.—From one to two feet high: root creeping: stem erect, simple, jointed: leaves linear, smooth, acute, arranged in numerous whorls, each consisting of about twelve: flowers axillar, solitary, sessile: germen egg-shaped: anther very large, red. Perennial: flowers in May and June: grows in pools and marshes: common. *Eng. Bot.* vol. xi. pl. 763. *Eng. Fl.* vol. i. p. 4. 3.

### 3. ZOSTERA. SEA-GRASS.

Calyx none, excepting the base of the leaf, inclosing the spike-stalk, and splitting lengthwise. Corolla none. Spadix linear bearing numerous flowers. Anther oblong, one-celled, attached laterally. Germen egg-shaped, sessile. Style simple, curved outwards. Stigmas two, thread-shaped, curved. Drupe cylindrical. Nut elliptical, striated. Kernel of the same form.—Name from *zoster*, a belt. — Removed by some botanists to the class Monœcia. 3.

1. *Z. marina*. *Grass Wrack* or *Sea-grass*. Leaves entire, obscurely three-ribbed, linear; stem slightly compressed.—Leaves very long, grass-green, obtuse: spadix pale green. Perennial: flowers in August: grows on sandy shallows and banks in the sea, and is thrown up abundantly after storms. When dried after being steeped in fresh water, the leaves form excellent bedding; they are also used for packing. The lower part of the stem, which is of a reddish brown colour, contains much saccharine matter, and is chewed by the Hebrideans, like the root of *Orobis tuberosus*. *Eng. Bot.* vol. vii. pl. 467. *Eng. Fl.* vol. i. p. 5. 4.

### 4. CHLARA. STONEWORT.

Calyx none. Corolla none. Anther sessile, globose, one-celled. Germen egg-shaped, spirally grooved. Style none; stigma in five divisions. Berry egg-shaped, containing numerous minute spherical seeds.—This genus is by most botanists referred to the class Cryptogamia.—Name of unknown origin. 4.

\* *Opaque, and very brittle.*

1. *C. vulgaris*. *Common Stonewort, or Water Horse-tail.* Stems branched, obscurely striated, smooth, never entirely incrustated; whorled branches awl-shaped, fertile ones with numerous short bracteas, three or four of which are much longer than the germen.—From six to ten or more inches in length; principal branches alternate: germen egg-shaped, sessile, in the centre of the floral leaves: anther sessile, upon the base of the germen. The whole plant green when fresh, usually studded with whitish, calcareous particles, and extremely fetid; when dry, hard and brittle. Annual: flowers in July and August: grows in muddy ditches, pools, and slow streams, entirely immersed: common. *Eng. Bot.* vol. v. pl. 336. *Eng. Fl.* vol. i. p. 6. 5.

2. *C. Hedwigii*. *Hedwig's Water Horse-tail.* Stems branched, elongated, obscurely striated, smooth, sometimes partially incrustated; whorled branches awl-shaped, fertile ones with numerous short bracteas, three or four of which are shorter than the accompanying germen.—Larger than the preceding, with more numerous fertile branches. Annual: flowers in July and August: grows immersed in still pools: rare. Buxstead, Sussex; near Croft, Yorkshire. *Eng. Fl.* vol. v. part i. p. 246. 6.

3. *C. aspera*. *Rough Water Horse-tail.* Stems slender, obscurely striated, everywhere covered with small spreading spines; whorled branches awl-shaped, the fertile ones with numerous short bracteas, those accompanying the germen of uncertain length.—Annual: flowers in June and July: grows in pools in peat bogs: rare. Orkney; Prestwick Carr, Northumberland, Durham. *Eng. Fl.* vol. v. part i. p. 246. 7.

4. *C. hispida*. *Prickly Water Horse-tail.* Stems furrowed, covered by a calcareous crust, and armed above with small deflected prickles; whorled branches awl-shaped, fertile ones with numerous bracteas, of which three or four are longer than the germen.—Larger than the three preceding species. Annual: flowers in July and August: grows immersed in pools in turf places: common. *Eng. Bot.* vol. vii. pl. 463. *Eng. Fl.* vol. i. p. 7. A small variety of this plant, without prickles, is sometimes met with. *Eng. Fl.* vol. i. p. 7. The above four species of *Chara* may with propriety be reduced to one, *C. vulgaris*, of which the three others are probably mere varieties. 8.

\*\* *Transparent and flexible.*

5. *C. translucens*. *Great transparent Water Horse-tail.* Stems elongated, glossy; branches of the whorls elongated, simple, cylindrical, obtuse, those bearing flowers axillar, compound; bracteas indistinct, or wanting.—The largest, the brightest coloured, and most glossy of all the species here described. Annual: flowers in June and July: grows in stagnant pools: rare in England and Ireland, more common in Scotland. *Eng. Bot.* vol. xxvi. pl. 1855. *Eng. Fl.* vol. i. p. 8. 9.

6. *C. flexilis*. *Smooth Water Horse-tail.* Stems repeatedly forked; whorled branches generally simple, obtuse, those bearing flowers axillar, compound; bracteas wanting, or very indistinct.—Stems from one to two feet long, slender, green, not crusted: anthers sometimes solitary, but generally accompanied with two germens, or with one only, at the forks of the whorled branches. More



slender than the last. All the species in this section are probably varieties of the present one. Annual: flowers throughout the summer: grows immersed in ditches, pools, and still rivers: frequent. *Eng. Bot.* vol. xv. pl. 1070. *Eng. Fl.* vol. i. p. 7. 10.

7. *C. nidifica*. *Proliferous Water Horse-tail*. Stems simple, below; whorled branches simple, elongated, those bearing flowers axillar, very numerous, compound, crowded; bracteas distinct, unequal.—Annual: flowers from August to October; grows in salt water ditches: very rare. Shoreham, Sussex; Clay, Norfolk. Loch Neagh, Ireland. *Eng. Bot.* vol. xxiv. pl. 1703. *Eng. Fl.* vol. i. p. 8. 11.

8. *C. gracilis*. *Slender Water Horse-tail*. Stems transparent, smooth; whorled branches acute, repeatedly forked, and as well as the compound axillar one, often bearing flowers; bracteas wanting.—A small, delicate, pale-coloured, glossy plant. Annual: flowers in August and September: grows in still water; rare. Fish-ponds in Jersey; Sussex; North Wales. *Eng. Bot.* vol. xxx. pl. 2140. *Eng. Fl.* vol. i. p. 9. 12.

## DIGYNIA.

### 5. CALLITRICHE. STAR-WORT.

Calyx none. Petals two, curved inwards, opposite, equal. Filament slender, elongated. Anther two-lobed. Germen superior, four-lobed. Styles two, hair-like. Stigmas acute. Seeds four, oblong.—Name from *kallos*, beautiful, and *thrix*, hair. 5.

1. *C. verna*. *Vernal Water Star-wort*. Fruit-bearing peduncles very short, with two bracteas at their base; fruit regularly tetragonal, each portion bluntly keeled at the back.—Stems feeble, numerous, branched, leafy; leaves varying from linear to oval, the upper three-nerved, and crowned. Annual: flowers in April and May: grows by the edges of pools, ditches, and brooks: common. *Eng. Bot.* vol. xi. pl. 722. *Eng. Fl.* vol. i. p. 10. 13.

2. *C. pedunculata*. *Pedunculated Water Star-wort*. Fruit-bearing peduncles elongated, without bracteas at the base; fruit regularly tetragonal, each portion bluntly keeled at the back.—Leaves all linear. Annual: flowers in June: grows in a ditch at Amberley, Sussex. *Eng. Bot. Suppl.* pl. 2606. *Brit. Fl.* 4th ed. p. 329. 14.

3. *C. autumnalis*. *Autumnal Water Star-wort*. Fruit-bearing peduncles very short, without bracteas; fruit irregularly tetragonal, each portion broadly and acutely winged at the back.—Leaves all linear, fruit larger than in the other species, its dorsal wing very broad. Annual: flowers from July to October: grows in the Loch of Cluny, in Scotland; in the outlet of Llyn Maclog, Anglesea; and near London. Loch Neagh, Ireland. *Eng. Bot.* vol. xi. pl. 722. small figure. *Brit. Fl.* 4th ed. p. 329. 15.

## CLASS II. DIANDRIA.

*Plants bearing Flowers with Two Stamens.*Order I. MONOGYNIA. *One Pistil.*\* *Flowers inferior, of one petal, regular.*

1. LIGUSTRUM. Corolla four-cleft. Berry two-celled; cells two-seeded.
2. FRAXINUS. Corolla none, or deeply four-cleft. Capsule compressed, two-celled; cells one-seeded.

\*\* *Flowers inferior, of one petal, irregular; seeds inclosed in a seed-vessel.*

3. VERONICA. Corolla wheel-shaped, deeply four-cleft, lower segment smaller. Capsule two-celled.
4. PINGUICULA. Corolla gaping, spurred. Capsule one-celled. Calyx five-cleft.
5. UTRICULARIA. Corolla masked, spurred. Capsule one-celled. Calyx of two leaves.

\*\*\* *Flowers inferior, of one petal, irregular; seeds naked.*

6. LYCOPUS. Corolla tubular, four-cleft; upper segment notched. Stamens distant, simple. Calyx tubular, five-cleft.
7. SALVIA. Corolla gaping. Filaments transversely attached to a footstalk. Calyx two-lipped.

\*\*\*\* *Flowers superior.*

8. CIRCÆA. Corolla of two petals. Calyx of two leaves. Capsule two-celled; cells one-seeded.

\*\*\*\*\* *Flowers destitute of petals.*

9. LEMNA. Calyx of one piece, membranaceous. Capsule one-seeded.
10. CLADIUM. Glumes of one valve, one-flowered, imbricated; the outer ones empty. Drupe destitute of bristles at the base. (*Salicornia. Fraxinus excelsior. Rhynchospora alba. Carex.*)

Order II. DIGYNIA. *Two Pistils.*

11. ANTHOXANTHUM. Calyx of two chaff-scales, containing one flower. Corolla of two husks, awned.

## DIANDRIA.—MONOGYNIA.

## 1. LIGUSTRUM. PRIVET.

Calyx inferior, tubular, with four upright blunt teeth. Corolla of one petal, funnel-shaped; limb expanded, divided into four deep, egg-shaped segments. Stamens opposite, in the mouth of the tube. Germen oval. Style very short; stigma thick, cleft. Berry globular, two-celled, with two seeds in each cell. Seeds convex on one side, angular on the other.—Name from *ligo*, to bind.

1. *L. vulgare*. Common Privet, Prim, or Print. Leaves between elliptical and lance-shaped, obtuse, with a small point; flowers in

dense terminal panicles.—A small shrub. Leaves opposite, nearly sessile, dark green, frequently remaining through the winter: flowers white, small: berries globular, black, bitter and nauseous. Flowers in June and July: grows in hedges and copses, in gravelly and chalky soil. Rocks of Dunnerholme, and above Cartmel Wells. Used for low hedges, especially in gardens. It grows fast, and may be raised from cuttings. *Eng. Bot.* vol. xi. pl. 764. *Eng. Fl.* vol. i. p. 13. 16.

### 2. FRA'XINUS. Ash.

Calyx none, or in four deep segments. Corolla none, or in four deep segments. Filaments short. Anthers large, with four furrows. Germen superior, egg-shaped, two-celled. Style short. Stigma cleft. Capsule lance-shaped, flat.—Name from *phraxis*, separation, on account of the ease with which the wood may be split. 7.

1. *F. excelsior*. *Common Ash*. Leaves pinnate, with lance-shaped, serrated leaflets; flowers destitute of calyx and corolla. — A very beautiful tree, with smooth, grey bark, large black buds, and pinnate leaves. In old trees, the lower branches, after bending downwards, curve upwards at their extremities; leaves stalked, consisting of five or six pairs of lance-shaped, nearly sessile, opposite leaflets, with a terminal one: flowers in loose panicles: anthers large, purple: capsules with a flat leaf-like termination, generally of two cells, each containing a flat oblong seed. It assumes its foliage later than any of our trees, and loses it early; the capsules generally fall soon, but sometimes remain through the winter. A variety occurs with simple leaves, and another with drooping branches. Flowers in April and May; grows in natural woods in many parts of Scotland, and is cultivated in woods and hedges. The wood, which is whitish and tough, is employed for numerous purposes in domestic and rural economy, and the leaves are eaten by cattle, but communicate a disagreeable taste to butter. *Eng. Bot.* vol. xxiv. pl. 1692. *Eng. Fl.* vol. i. p. 14. 17.

### 3. VERONICA. SPEEDWELL.

Calyx inferior, with four unequal segments, permanent. Corolla wheel-shaped, permanent; its limb divided into four unequal segments, of which the lower is smallest. Filaments spreading, tapering downwards; anther oblong. Germen compressed. Style thread-shaped, declining, as long as the stamens; stigma small, notched. Capsule more or less inversely heart-shaped, compressed, two-celled, four-valved. Seeds numerous, roundish.—Name said to have been altered from *Betonica*. 8.

\* *Flowers in terminal clusters or spikes.*

1. *V. serpyllifolia*. *Smooth or Thyme-leaved Speedwell*. Clusters somewhat spiked; leaves egg-shaped, slightly crenate; capsule inversely heart-shaped, shorter than the style.—Root of long white fibres: stem about five inches high, decumbent and rooting at the base, branched, leafy: leaves opposite, with short stalks, slightly hairy, three-nerved: bractees elliptical: flowers of a delicate pale blue, reddish before they are fully expanded, with deep blue lines. An alpine variety of this species, with prostrate stems and short racemes of a few beautiful blue flowers, has been described under the name of *V. humifusa*. Perennial: flowers in

May and June: pastures and road-sides: common. *Eng. Bot.* vol. xv. pl. 1075. *Eng. Fl.* vol. i. p. 20. 18.

2. *V. alpina*. *Alpine Speedwell*. Cluster corymbose; leaves elliptical, or egg-shaped, somewhat serrate; capsule inversely egg-shaped, longer than the style.—Root creeping: stem about four inches high, simple, ascending, rooting at the base, leafy: leaves opposite, smooth, nearly sessile: bractees and segments of the calyx ciliated: flowers small, bright blue. Perennial: flowers in June and July: grows by the margins of rills, near the summits of mountains in the Highlands: Ben Nevis, Ben Lawers, Ben Lomond, Ben-na-buir, &c. *Eng. Bot.* vol. vi. pl. 484. *Eng. Fl.* vol. i. p. 19. 19.

3. *V. saxatilis*. *Rock Speedwell*. Cluster corymbose, few-flowered; leaves elliptical; stems spreading; capsule egg-shaped, longer than the calyx.—Three or four inches long: stems decumbent at the base, woody, branched: leaves opposite, small, elliptical, the upper ones oblong, or inversely egg-shaped, slightly serrated towards the end, dark green, smooth: flowers from three to seven: corolla large, deep blue, with the throat red: flower-stalks much longer than the bractees. Perennial: flowers in June and July: grows on rocks, on some of the higher mountains of Scotland: Ben Lawers, Meall Greadha, Craig-Chailleach, &c. *Eng. Bot.* vol. xv. pl. 1027. *Eng. Fl.* vol. i. p. 19. 20.

4. *V. spicata*. *Spiked Speedwell*. Spike conical, many-flowered; leaves opposite, elliptical, obtuse, unequally and bluntly serrated; stem ascending.—From four to eight inches high: stem simple: leaves downy, broader on the lower part of the stem, and stalked, the uppermost narrow: flowers nearly sessile, deep blue: bractees linear. A variety of this plant, characterized by its greater luxuriance, and its broader, almost elliptical stem-leaves, has been described under the name of *V. hybrida*. Perennial: flowers from July to September; grows in dry pastures: rare. Newmarket Heath, about Bury St. Edmund's, and other parts of England. Smith. *Eng. Bot.* vol. i. pl. 2. *Eng. Fl.* vol. i. p. 17. 21.

\*\* *Flowers in lateral clusters or spikes.*

5. *V. Beccabunga*. *Short-leaved Water Speedwell*, or *Brooklime*. Clusters opposite; leaves elliptical, obtuse, somewhat serrate, smooth; stem procumbent, rooting at the base.—The whole plant succulent and glossy: stems decumbent, generally floating: flowers blue, in long stalked clusters. Perennial: flowers in June and July: grows in brooks and in ditches with running water: common. *Eng. Bot.* vol. x. pl. 655. *Eng. Fl.* vol. i. p. 20. 22.

6. *V. Anagallis*. *Long-leaved Water Speedwell*, or *Brooklime*. Clusters opposite; leaves lance-shaped, acute, distinctly serrate, smooth; stem erect.—The whole plant succulent and glossy: stems erect, from one to three feet high: flowers pale blue, frequently purplish. Perennial: flowers in June and July: brooks, ditches, and pools: not so common as the last. *Eng. Bot.* vol. xi. pl. 781. *Eng. Fl.* vol. i. p. 21. 23.

7. *V. scutellata*. *Narrow-leaved Marsh Speedwell*. Clusters alternate; leaves oblong or linear, somewhat toothed; fruit-stalks bent backwards.—The whole plant slender, stems weak, spreading, sometimes decumbent and rooting, from nine to twelve inches high: leaves sometimes entire at the margin: fruit-stalks remarkably spreading: flowers flesh-coloured, streaked with blue. Perennial: flowers in June and July: grows in marshy places with

gravelly soil: not common. *Eng. Bot.* vol. xi. pl. 782. *Eng. Fl.* vol. i. p. 21. 24.

8. *V. montana*. *Mountain Speedwell*. Clusters' elongated, few-flowered; leaves egg-shaped, serrate; stalked; stem hairy all round.—Root fibrous: stems weak, decumbent, leafy: leaves deeply serrate, thin, shining, slightly hairy: clusters loose: flowers pale blue, with purple lines: capsule of two orbicular lobes, compressed with a sharp ciliated margin. Perennial: flowers in May and June: moist woods: not unfrequent. *Eng. Bot.* vol. xi. pl. 766. *Eng. Fl.* vol. i. p. 23. 25.

9. *V. Chamæ'drys*. *Germander Speedwell*. Clusters many-flowered; leaves egg-shaped, sessile, deeply serrate; stem with two opposite rows of long white hairs.—Stems decumbent at the base, marked with two lines of long hairs, which change sides between each pair of leaves: leaves wrinkled and hairy, with large serratures: clusters long, shooting up beyond the stem: flowers large, bright blue, with deeper streaks, externally pale purple: capsule inversely heart-shaped. Perennial; flowers in May and June: grows on dry banks, under hedges, in open pastures and in woods: common. The infusion of this species and *V. officinalis* has been recommended as a substitute for tea. *Eng. Bot.* vol. ix. pl. 623. *Eng. Fl.* vol. i. p. 23. 26.

10. *V. officinalis*. *Common Speedwell*. Clusters spiked; leaves broadly elliptical, serrate, rough with short hairs; stem procumbent, hairy.—Stems prostrate, rooting at the base, from six to eighteen inches long: leaves with short stalks, stiffish, pale green, spikes of numerous light blue or purplish flowers, veined with deeper blue: partial flower-stalks shorter than the bractæas: capsule inversely heart-shaped. Perennial: flowers in May and June: grows on dry banks, in open pastures, on heaths, and in dry woods: not uncommon. *Eng. Bot.* vol. xi. pl. 765. *Eng. Fl.* vol. i. p. 22.—An alpine variety occurs in some parts of Scotland and Ireland. It differs in being entirely destitute of hairs, and in having a much denser spike of deep blue flowers. *Eng. Fl.* vol. i. p. 22.

Another variety with capsules, leaves between elliptical and lance-shaped, and inversely heart-shaped, undivided, two or three inches high, found in dry heathy places, in the district of Carrick, Ayrshire, by Mr. James Smith, and in various parts of Scotland by others, has been described under the name of *V. hirsuta*. *Eng. Fl.* vol. i. p. 23. 27.

\*\*\* *Flowers solitary.*

11. *V. agrestis*. *Green procumbent Chickweed Speedwell*. Leaves all stalked, egg-shaped, deeply serrate, the lower ones opposite; flower-stalks about equal to the leaves in length, curved when in fruit; corolla shorter than the calyx; seeds cupped.—Root small: stems hairy on two opposite sides, branched at the base, spreading, hairy: leaves broad, with short stalks: corolla small, pale blue: capsule two-lobed, tumid, rough, with about six seeds. Annual: flowers from April to September: grows in cultivated fields: common. *Eng. Bot. Suppl.* pl. 2603. *Eng. Fl.* vol. i. p. 24. 28.

12. *V. polita*. *Grey Procumbent Chickweed Speedwell*. Leaves all stalked, between egg-shaped and heart-shaped, deeply serrate, the lower ones opposite; flower-stalks about the length of the leaves, curved when in fruit; corolla shorter than the calyx; seeds cupped.—Stems procumbent, spreading, hairy: corolla dark blue, veined:

capsule two-lobed, tumid, with many seeds. Distinguished from *V. agrestis*, of which it is perhaps a variety, principally by its bright blue flower, and many-seeded capsule. Annual: flowers from April to September: grows in cultivated fields: not very uncommon. *V. agrestis*, *Eng. Bot.* vol. xi. pl. 783. *Eng. Fl.* vol. i. p. 24. 29.

13. *V. Buxbaumii*. *Buxbaum's Speedwell*. Leaves all stalked, between egg-shaped and heart-shaped, deeply serrate; flower-stalks longer than the leaves, always straight, or slightly curved at the tip when in fruit; corolla longer than the calyx; seeds cupped.—Stems one or two feet long, procumbent, spreading, covered with soft white hairs; corolla very large, light blue, streaked with darker lines: capsule inversely heart-shaped, with four or five seeds in each cell. Differs from the two preceding in its larger size and greater hairiness, as well as its larger corolla. Annual: flowers from August to October: grows in cultivated grounds where it has been introduced: rare. First described as British by Dr. Johnstone, who found it near Berwick on Tweed. Oxfordshire; Kent; Norfolk; Northumberland. About Edinburgh, Glasgow, Dunfermline, Aberlady, &c. *Eng. Bot. Suppl.* pl. 2769. *Brit. Fl.* 4th ed. p. 7. 30.

14. *V. arvensis*. *Wall Chickweed Speedwell*. Leaves heart-shaped, broadly serrate, lower ones stalked, upper lance-shaped, sessile.—Stems nearly erect: leaves nearly sessile: corolla small, pale blue, with deeper lines: capsule inversely heart-shaped, compressed, ciliated. Annual: flowers in May and June: on the tops of walls, in dry fields, and among rubbish: common. *Eng. Bot.* vol. xi. pl. 734. *Eng. Fl.* vol. i. p. 24. 31.

15. *V. hederifolia*.  *Ivy-leaved Chickweed Speedwell*. *Small Henbit*. Leaves broadly heart-shaped, five-lobed; segments of the calyx heart-shaped, acute, ciliated; seeds cupped, wrinkled.—Stems procumbent, spreading: leaves flat, generally five-lobed, the upper three-lobed, flowers small, pale blue, with deeper lines: capsule two-lobed, turgid. Annual: flowers from March to December: grows in cultivated fields, under hedges, in woods and among rubbish: common. *Eng. Bot.* vol. xi. pl. 784. *Eng. Fl.* vol. i. p. 25. 32.

16. *V. triphyllous*. *Upright or Trifid Chickweed Speedwell*. Leaves with finger-like divisions; fruit-stalks longer than the calyx; seeds flat.—Stem three or four inches high, branched at the base: lower leaves undivided, opposite; upper in three or five segments, alternate: flowers deep blue: capsule inversely heart-shaped, compressed, hairy: style very short: seeds egg-shaped. Annual: flowers in April and May: grows in sandy fields: very rare. Norfolk and Suffolk. *Eng. Bot.* vol. i. pl. 26. *Eng. Fl.* vol. i. p. 26. 33.

17. *V. ver'na*. *Vernal Chickweed Speedwell*. Leaves pinnatifid; uppermost lance-shaped; fruit-stalks shorter than the calyx; seeds flat.—Stem from two to four inches high: leaves deeply divided, the middle segment larger; the divisions become less numerous as the leaves ascend on the stem, the upper being simple: flowers small, light blue, with deeper lines: capsule inversely heart-shaped, compressed, downy and ciliated. Annual: flowers in April: grows in sandy fields: very rare. First found by Sir John Cullum, about Thetford and Bury, Suffolk. *Eng. Bot.* vol. i. pl. 25. *Eng. Fl.* i. vol. p. 26. 34.

## 4. PINGUI/CULA. BUTTERWORT.

Calyx small, gaping, permanent; upper lip erect, three-cleft; lower reflected, cleft. Corolla gaping, having the margin irregularly five-cleft, with a spur behind. Filaments cylindrical. Anthers roundish. Germen globose. Style very short. Stigma with two unequal lips. Capsule egg-shaped, one-celled. Seeds numerous, cylindrical.—Named from *punguis*, fat; on account of the appearance of the leaves. 9.

1. *P. vulgaris*. Common Butterwort. Spur cylindrical, acute, as long as the petal, upper lip two-lobed, lower divided into three segments; capsule egg-shaped.—Whole plant smooth, covered with small transparent grains: leaves radical, egg-shaped, fleshy, with the edges involute, pale green: flowers drooping, deep purple: scape slightly hairy towards the top. Perennial: flowers in June: grows in marshy places, and especially wet heaths: common in the North of England, in Ireland, and in all parts of Scotland. It is imagined to cause diseases in sheep, but it appears not to be eaten by these animals or other cattle. *Eng. Bot.* vol. i. pl. 70. *Eng. Fl.* vol. i. p. 28. 35.

2. *P. grandiflora*. Spur cylindrical, notched, as long as the petal; middle segment of the lower lip notched.—Larger than *P. vulgaris*; leaves pale greenish-yellow: stalks from six to nine inches high: corolla deep purple, reticulated all over with dark blue veins. Perennial: flowers in May: grows on bogs in the western part of the county of Cork, where it was discovered by Mr. Drummond; also near Kenmare, Ireland. *Eng. Bot.* pl. 2184. *Eng. Fl.* vol. i. p. 28. 36.

3. *P. Lusitánica*. Pale Butterwort. Spur curved, obtuse, shorter than the petal; divisions of the petal nearly equal; capsule globose; stalk hairy.—Whole plant villous: leaves egg-shaped, thin, somewhat translucent, involute at the edges, very pale green, veined with purple: flowers pale purple or rose colour: scape hairy. Perennial: flowers in June: grows in marshy places and wet heaths: Dorsetshire, Hampshire, Devonshire, and Cornwall: plentiful in Ireland: in many parts of the Highlands and Hebrides much more abundant than the common Butterwort. The two species are readily distinguished by their general appearance; *P. Lusitánica* being much more delicate and paler than the other. *Eng. Bot.* vol. iii. pl. 145. *Eng. Fl.* vol. i. p. 28. 37.

4. *P. alpina*. Spur conical, slightly curved, shorter than the petal; middle segment of the lower lip slightly retuse; capsule conical; stalk nearly smooth.—Leaves oblong, thin, less transparent than in *P. Lusitánica*, pale green, sometimes tinged with purple: flowers yellow. Perennial: found by the Rev. George Gordon, in 1831, in the bogs of Auchterflow and Shannon, Rosehaugh, Ross-shire; Isle of Skye; first determined by Mr. Hewett Watson as a British species, and described by Dr. Graham. *Eng. Bot. Suppl.* pl. 2747. *Brit. Fl.* 4th ed. vol. i. p. 8. 38.

## 5. UTRICULA'RIA.—BLADDERWORT.

Calyx of two small, egg-shaped, equal leaves. Corolla masked; upper lip flat, obtuse, erect; lower lip with a prominent heart-shaped palate; spur projecting from the base. Stamens short. Anthers small, adhering together. Germen globose. Style thread-

shaped, as long as the calyx. Capsule large, globose, one-celled. Seeds numerous, small.—Name from *utriculus*, a little bladder. 10.

1. *U. vulgaris*. \* *Greater Hooded Water Milfoil*, or *Bladderwort*. Spur conical; upper lip of the corolla as long as the palate; leaves divided into numerous segments.—Stems much branched, lying prostrate in the water: leaves small, with very slender divisions, having minute prickles at the margin. Scape erect, round, bearing from three to eight bright yellow flowers, arranged in a bunch: lower lip much larger than the upper, with a projecting palate closing the mouth: spur curved, acute: the roots, stems, and leaves are covered with numerous vesicles, having an aperture closed by a valve, and its margin armed with bristles. In the earlier stages these vesicles are filled with water, and when it becomes necessary for the plant to rise and expand its flowers in the air, they become filled with air: after some time the air in the vesicles is substituted by water, and the plant descends to ripen its seeds. Perennial: flowers in July: grows in ditches and pools: frequent. *Eng. Bot.* vol. iv. pl. 253. *Eng. Fl.* vol. i. p. 30. 39.

2. *U. intermedia*. *Middle Hooded Water Milfoil*, or *Bladderwort*. Spur conical; upper lip of the corolla double the length of the palate; leaves divided into three linear forked segments.—Smaller than the former: leaves repeatedly forked: flowers smaller and paler: bladders on branched stalks, not on the leaves. Perennial: flowers in July: grows in ditches and pools: not common. About Bantry and Dublin, in Ireland; lake near Forfar, and various parts of Aberdeenshire and Morayshire. *Eng. Bot.* vol. xxxv. pl. 2489. *Eng. Fl.* vol. i. p. 30. 40.

3. *U. minor*. *Lesser Hooded Water Milfoil*, or *Bladderwort*. Spur very short, obtuse, keeled; upper lip as long as the palate; leaves divided into three linear segments, which are again similarly divided; corolla gaping.—Smaller than the last: flowers about five, pale yellow: palate not projecting, the mouth being open. Perennial: flowers in July: grows in ditches and pools: not common. Somersetshire, Norfolk, Cumberland, Westmoreland; common in some parts of Ireland and Scotland. *Eng. Bot.* vol. iv. pl. 254. *Eng. Fl.* vol. i. p. 31. *Fl. Scot.* p. 9. 41.

#### 6. LYCOPUS. GIPSYWORT.

Calyx tubular, with five acute segments. Corolla tubular, with four segments, the upper broader and notched. Stamens simple, longer than the corolla, bent; anthers small. Germen four-cleft; style thread-shaped, as long as the stamens, stigma cleft. Seeds four, inversely egg-shaped, at the bottom of the calyx.—Name from *lycos*, a wolf, and *pous*, a foot. 11.

1. *L. europeus*. *Water Horehound*. *Gipsywort*. Leaves deeply serrate.—Two feet high: allied to the genus *Mentha*, &c., and like it having a four-cornered stem: leaves opposite, narrow, egg-shaped, wrinkled, very deeply serrated: flowers whitish, in dense whorls. Perennial: flowers from July to September: grows on the banks of pools and brooks in gravelly soil: common in England and Ireland; less frequent in Scotland. *Eng. Bot.* pl. 1105. *Eng. Fl.* vol. i. p. 34. 42.

#### 7. SALVIA. SAGE.

Calyx tubular, ribbed, with two unequal lips. Corolla having



the tube dilated upwards, compressed; upper lip concave; lower lip broad, three-lobed, the middle lobe largest, notched. Stamens with two spreading branches, one of which bears a one-celled anther. Germen four-cleft. Style thread-shaped, curved; stigma cleft. Seeds four, roundish, in the bottom of the calyx.—Name from *salvo*, to heal. 12.

1. *S. pratensis*. *Meadow Sage*, or *Clary*. Leaves oblong, heart-shaped at the base, crenate, the upper ones embracing the stem; whorls nearly leafless; upper segment of the corolla clammy.—A beautiful plant, about three feet high, with large purple flowers: leaves wrinkled: whorls of six flowers, scarcely longer than the floral leaves. Perennial: flowers in July: grows in dry pastures and by hedges: rare; and probably introduced. Near Cobham, in Kent; common in Surrey and Sussex; Wick-cliffs, Gloucestershire; between Middleton, Stoney and Audley, Oxfordshire. *Eng. Bot.* vol. iii. pl. 153. *Eng. Fl.* vol. i. p. 34. 43.

2. *S. Verbena*. *Wild Sage*, or *Clary*. Leaves egg-shaped, serrate, sinuate; corolla narrower than the calyx.—From one to two feet high: stem decumbent at the base: lower leaves egg-shaped, stalked: upper narrower, more acute, sessile: flowers small, purple; upper lip concave, compressed; lower three-lobed: floral leaves as long as the calyx. Perennial: flowers in June and July: grows in dry pastures and on banks, in gravelly soil: not uncommon in England and Ireland; coast of Fife, &c.; King's Park, Edinburgh. *Eng. Bot.* vol. iii. pl. 153. *Eng. Fl.* vol. i. p. 34. 44.

#### 8. CIRCÆA. ENCHANTER'S NIGHT-SHADE.

Calyx of one leaf, superior; tubular at the base; the limb with two egg-shaped deflected segments. Petals two, inversely heart-shaped, equal. Filaments hair-like, as long as the calyx; anthers roundish. Germen roundish. Style thread-like; stigma dilated, notched. Capsule inversely egg-shaped, covered with hairs, two-celled, each cell one-seeded. Seeds oblong.—Named from the enchantress *Circe*. 13.

1. *C. alpina*. *Mountain Enchanter's Night-shade*. Stem ascending, smoothish, leaves heart-shaped, toothed, shining.—Root spreading: whole plant nearly smooth: stem prostrate at the base, red: leaves pale-green, delicate: flowers rose-coloured, in short, terminal, and axillar branches: smaller than the next species. Perennial: flowers in July and August: grows in shady places, in woods, and among stones, in the lower parts of mountainous districts. Lancashire, Westmoreland and Cumberland; Lochbroom, shores of Lochness and Loch Tay, and many of the Highland Glens. *Eng. Bot.* vol. xv. pl. 1057. *Eng. Fl.* vol. i. p. 16. 45.

2. *C. lutetiæna*. *Common Enchanter's Night-shade*. Stem erect, hairy; leaves egg-shaped, denticulate.—Root spreading, difficult to be extirpated: stem little branched, generally with a solitary, terminal bunch of flowers: leaves dark green, opaque, hairy: flowers small, white or tinged with red: the two species pass into each other, and are probably specifically identical. Perennial: woods, copses, hedges and shady lanes: flowers in June and July. *Eng. Bot.* vol. xv. pl. 1056. *Eng. Fl.* vol. i. p. 15. 46.

## 9. LEMNA. DUCKWEED.

Calyx of one leaf, membranous. Corolla none. Stamens thread-shaped, lateral, unequal, longer than the calyx. Anthers of two globes. Germen superior, egg-shaped. Style shorter than the stamens. Capsule one-celled, globose, containing one seed.—Name from *lemma*, a scale. 14.

1. *L. trisulca*. *Ivy-leaved Duckweed*. Fronds stalked, between elliptical and lance-shaped, thin, serrated towards the point; roots solitary.—Fronds about half an inch long, reticulate, pellucid at the margin: leaf-stalks issuing from the sides of another leaf, from a fissure there: capsule egg-shaped, pointed, sitting on the upper surface of the frond. Annual: flowers from June to September: occurs floating in ditches, pools, and lakes: common. All the species of this genus are said to be eaten by ducks and other herbivorous aquatic birds. *Eng. Bot.* vol. xiii. pl. 926. *Eng. Fl.* vol. i. p. 32. 47.

2. *L. minor*. *Lesser Duckweed*. Fronds inversely egg-shaped, serrated, compressed, the lower stalked; roots solitary.—Fronds two or three lines long, rather thick and firm: flowers from June to September. Annual: occurs floating in dense masses, in ditches, pools, and lakes: very common. *Eng. Bot.* vol. xvi. pl. 1095. *Eng. Fl.* vol. i. p. 32. 48.

3. *L. gibba*. *Gibbous Duckweed*. Fronds inversely egg-shaped, hemispherical beneath; roots solitary.—Fronds about a line long, green and plane above, bulging and purple beneath. Annual: flowers from June to September: occurs floating in ditches, pools, and lakes: rare in Scotland; in England and Ireland not unfrequent. *Eng. Bot.* vol. xviii. pl. 1233. *Eng. Fl.* vol. i. p. 32. 49.

4. *L. polyrrhiza*. *Greater Duckweed*. Fronds broadly egg-shaped, a little convex beneath; roots numerous.—Fronds half an inch long, firm, green above, purple below. Annual: flowers unknown in Great Britain, occurs floating in stagnant water: rare. *Eng. Bot.* pl. 2458. *Eng. Fl.* vol. i. p. 33. 50.

## 10. CLADIUM. TWIG-RUSH.

Calyx a one-valved chaff-scale, concave, one-flowered. Corolla none. Stamen thread-shaped, longer than the husk. Anther linear, erect. Germen superior, egg-shaped, without bristles at the base. Style thread-shaped. Drupe egg-shaped, one-celled; nut hard, egg-shaped, acute.—Name from *klados*, a branch. 15.

1. *C. Mariscus*. *Prickly Twig-rush*. Panicle repeatedly divided; stem round, smooth, leafy; leaves prickly at the edge and along the keel.—Root long, and creeping: stem four or five feet high, erect, angular at the top: leaves keeled, ending in a sharp point, with prickly serratures: panicle erect, with numerous compound, furrowed branches. Perennial: flowers in July and August: grows in marshes and bogs in several parts of England: rare. *Cunnamara* bogs, Ireland. Very rare in Scotland; Sutherlandshire; formerly found in the moss of Restenat, near Forfar, but now extinct there. *Eng. Bot.* pl. 950. *Eng. Fl.* vol. i. p. 36. *Brit. Fl.* p. 13. 51.

## DIGYNIA.

## 11. ANTHOXANTHUM. SPRING-GRASS.

Calyx of two egg-shaped, pointed, concave chaff-scales, one-flowered. Corolla of two equal husks, shorter than the calyx, awned on the back. An internal corolla, or nectary, consisting of two egg-shaped, minute scales. Stamens hair-shaped, longer than the corolla; anther oblong, forked at both ends. Germen superior, oblong. Styles short; stigmas long, downy. Seed one, nearly cylindrical, tapering at each end. Name from *anthos*, a flower, and *xanthos*, yellow. 16.

1. *A. odoratum*. Sweet-scented Spring-grass. Panicle spiked, oblong; flowers on short stalks, and longer than the awns.—About a foot high: leaves short, pale green: panicle dense, becoming brownish yellow: scales of the calyx unequal, acute, membranous, with a green bristly keel: husks of the corolla obtuse, hairy, shorter than the calyx, one with a short straight awn, the other with a longer twisted one: internal corolla or nectary of two very small, membranous scales. The pleasant smell of new-made hay is chiefly owing to this plant, which in drying emits an odour similar to that of *Asperula odorata* and *Trifolium officinale*. Perennial: flowers in May: grows in pastures and meadows: common. This plant is a true grass, but is separated on account of its having only two stamens. It is eaten by cattle. *Eng. Bot.* pl. 647. *Eng. Fl.* vol. i. p. 97. 52.

## CLASS III. TRIANDRIA.

*Plants bearing Flowers with Three Stamens.*Order I. MONOGYNIA. *One Pistil.*\* *Flowers superior.*

1. VALERIANA. Corolla of one petal, five-cleft, protuberant on one side at the base. Seed one, crowned with a feathery pappus.
2. FEDIA. Corolla of one petal, five-cleft, protuberant on one side at the base. Capsule three-celled, crowned with the toothed calyx.
3. CROCUS. Corolla of six equal segments, resembling petals; tube longer than the limb. Stigmas folded.
4. TRICHONEMA. Corolla of six equal segments; tube shorter than the limb. Stigmas deeply divided.
5. IRIS. Corolla of six unequal segments, the three outer larger and reflected. Stigmas three, resembling petals.

\*\* *Flowers inferior, chaffy.*

6. SCHENUS. Chaff-scales single, in two rows, arranged in an imbricated spike, the outer empty. Husks none. Style simple at the base, deciduous.
7. RHYNCHOSPORA. Chaff-scales single, arranged in a spike imbricated all round, the outer empty. Husks none. Style enlarged at the base, permanent.
9. SCIRPUS. Chaff-scales single, uniform, concave, arranged in a

spike imbricated all round. *Husks* none. *Style* simple at the base, deciduous.

10. ELEOCHARIS. *Chaff-scales* single, uniform, arranged in a spike imbricated all round. *Husks* none. *Style* enlarged at the base, permanent
11. ERIOPHORUM. *Chaff-scales* single, uniform, arranged in a spike imbricated all round. *Husks* none. *Seed* with numerous very long hairs arising from the base.
8. CYPERUS. *Chaff-scales* single, uniform, in two rows, arranged in an imbricated spike. *Husks* none. *Seed* naked at the base.
12. NARDUS. *Chaff-scales* two. *Husks* none.

(Some species of *Juncus*.)

## Order II. DIGYNIA. Two Pistils.

\* *Flowers in panicles. Calyx of two or three chaff-scales, containing one flower.*

15. ALOPECURUS. *Chaff-scales* two, nearly equal, acute. *Husk* one, awned at the base.
16. KNAPIA. *Chaff-scales* two, nearly equal, abrupt. *Husks* two, unequal, awnless.
14. PHLEUM. *Chaff-scales* two, nearly equal, pointed. *Husks* two, concealed, awnless. *Seed* loose.
13. PHALARIS. *Chaff-scales* two, unequal. *Husks* three or four, the two innermost downy. *Seed* invested by the hardened internal husks.
17. POLYPOGON. *Chaff-scales* two, equal, awned at the summit. *Husks* two, concealed, the outermost with a terminal awn. *Seed* loose.
18. MILIUM. *Chaff-scales* two, unequal, tumid. *Husks* two, concealed. *Seed* invested by the hardened husks.
19. AGROSTIS. *Chaff-scales* two, acute, awnless. *Husks* two, longer than the chaff-scales, membranous, tufted with hairs at the base. *Seed* loose.
20. CYNODON. *Chaff-scales* two, acute, lance-shaped, equal. *Husks* two, very unequal, compressed. *Seed* invested by the hardened husks.
34. SPARTINA. *Chaff-scales* two, lance-shaped, unequal. *Husks* two, unequal, compressed. *Seed* loose.
38. LAGURUS. *Chaff-scales* two, unequal, fringed, with terminal feathery awns. *Husks* two, unequal, the outer with three awns.
21. DIGITARIA. *Chaff-scales* two or three, very unequal, awnless. *Husks* two, unequal, awnless. *Seed* invested by the hardened husks.

(Some species of *Arundo*. *Melica uniflora*.)

\*\* *Flowers in panicles. Calyx of two chaff-scales, containing two or three flowers.*

23. AIRA. *Chaff-scales* two, unequal. *Flowers* two. *Husks* two, the outer awned above the base. *Seed* loose in the husks.
26. MELICA. *Chaff-scales* two, unequal, awnless. *Flowers* two, together with the rudiments of a third. *Husks* two, awnless. *Seed* invested by the hardened husks.
25. HOLCUS. *Chaff-scales* two, unequal. *Flowers* two, one of

them bearing stamens only, and awned. *Husks* two, awned. *Seed* invested by the hardened husks.

22. *PANICUM*. *Chaff-scales* two, very unequal. *Flowers* two, one of them destitute of stamens and style, the perfect one awnless.

*Husks* two. *Seed* invested by the hardened husks.

28. *HIEROCHLOE*. *Chaff-scales* two, unequal, acute, awnless. *Flowers* three, the central one perfect, with two stamens, the lateral ones bearing three stamens, but no pistil. *Husks* permanently membranous. *Seed* loose. *Styles* distinct.

27. *SESLERIA*. *Chaff-scales* two, acute, somewhat awned. *Flowers* two or three, all perfect. *Husks* toothed or awned. *Seed* loose. *Styles* combined.

\*\*\* *Flowers in panicles. Calyx of two chaff-scales, containing more than two flowers.*

32. *BRIZA*. *Chaff-scales* two, nearly equal, heart-shaped, obtuse, awnless. *Husks* two, unequal, awnless. *Seed* united to the husks.

30. *POA*. *Chaff-scales* two, unequal, egg-shaped, acute, awnless. *Husks* two, unequal, the outer keeled, egg-shaped, acute, awnless. *Seed* loose, oblong.

29. *GLYCERIA*. *Chaff-scales* two, unequal, oblong, obtuse, awnless. *Husks* two, unequal, the outer ribbed, cylindrical, abrupt, awnless. *Seed* loose, cylindrical.

31. *TRIODIA*. *Chaff-scales* two, nearly equal, egg-shaped, acute, awnless. *Husks* two, unequal, egg-shaped; the outer deeply cleft, with an intermediate point. *Seed* oval.

33. *DACTYLIS*. *Chaff-scales* two, unequal, lance-shaped, long-pointed, the larger keeled. *Husks* two, lance-shaped, the outer keeled, and awned at the summit.

36. *FESTUCA*. *Chaff-scales* two, very unequal, lance-shaped, pointed. *Husks* two, unequal, the outer nearly cylindrical, pointed or awned. *Seed* oblong, loose.

35. *CYNOSURUS*. *Chaff-scales* two, equal, lance-shaped, long-pointed, awned. *Husks* two, unequal, the outer lance-shaped, keeled, awned at the summit. *Seed* oblong, loose.

37. *BROMUS*. *Chaff-scales* two, unequal, lance-shaped, acute, awnless. *Husks* two, unequal; the outer elliptical, cleft, awned near the summit. *Seed* elliptical, united to the inner husk.

39. *AVENA*. *Chaff-scales* two, unequal, broadly lance-shaped, awnless. *Husks* two, unequal; outer nearly cylindrical, pointed, deeply cleft, with a long twisted awn from the middle. *Seed* elliptical, united to the outer hardened husk.

24. *ARUNDO*. *Chaff-scales* two, unequal, lance-shaped, keeled, awnless. *Husks* two, unequal, surrounded by long hairs. *Seed* oblong, loose, but enveloped in the husks.

\*\*\*\* *Flowers spiked; arranged on a common stalk, having alternate lateral excavations.*

40. *LOLIUM*. *Chaff-scale* one, lance-shaped, fixed, opposite to the excavation, many-flowered.

41. *ROTBOLLIA*. *Chaff-scales* two, lance-shaped, parallel, opposite to the excavation, two-flowered.

44. *TRITICUM*. *Chaff-scales* two, at each joint of the stalk, oblong,

opposite to each other, transverse to the excavation, many-flowered.

42. ELYMUS. *Chaff-scales* in several parallel pairs, opposite to the excavation, each pair containing several flowers.

43. HORDEUM. *Chaff-scales* in three parallel pairs, opposite to the excavation, each pair containing one flower.

### Order III. TRIGYNIA. *Three Pistils.*

45. MONTIA. *Calyx* of two leaves. *Corolla* of one piece. *Capsule* three-valved, three-seeded.

47. POLYCARPON. *Calyx* of five leaves. *Petals* five, nearly entire. *Capsule* three-valved, many-seeded.

46. HOLOSTEUM. *Calyx* of five leaves. *Petals* five, jagged. *Capsule* six-toothed, many-seeded.

## TRIANDRIA.—MONOGYNIA.

### I. VALERIANA. VALERIAN.

*Calyx* a slight border surmounting the germen. *Corolla* of one tubular petal with a protuberance or spur at the base; limb divided into five obtuse segments. Filaments awl-shaped, erect, borne upon the corolla; anther oblong. Germen inferior, oblong, one-celled. Style thread-shaped, as long as the stamens; stigma simple. Seed oblong, compressed, crowned with the calyx expanded into a number of feathery rays.—Named from *valeo*, to prevail, on account of its medical properties. 17.

1. *V. rubra*. *Red Valerian*. Flowers with one stamen, and a long spur; leaves broadly lance-shaped, nearly entire.—From one to two feet high: lower leaves shortly stalked, entire: upper sessile, broader, sometimes toothed: flowers rose-coloured, numerous, arranged in a corymbose head. Perennial: flowers from June to September: grows on old walls and among rubbish in various parts of the country, but is not truly indigenous. *Eng. Bot.* vol. xx. pl. 1531. *Eng. Fl.* vol. i. p. 42. 53.

2. *V. dioica*. *Small Marsh Valerian*. Flowers diœcious; radical leaves egg-shaped, stem leaves pinnatifid.—Root creeping: stem six or eight inches high, erect: terminal lobe of the leaves large: flowers pale rose-coloured. Perennial: flowers in June: grows in moist meadows: frequent in England, rare in Scotland. *Eng. Bot.* vol. ix. pl. 628. *Eng. Fl.* vol. i. p. 43. 54.

3. *V. officinalis*. *Great Wild Valerian*. *Corolla* bulging at the base: leaves all pinnate; leaflets lance-shaped, nearly uniform.—From two to four feet high: root with long slender fibres, fetid: stem furrowed: leaflets broadly serrated: flowers pale rose-colour or whitish. There is a variety of smaller size, with more narrow leaflets, the root of which is more fetid. Perennial: flowers in June: grows by the side of lakes, in marshes, moist meadows, by hedges, among rubbish, in dry pastures, and in woods: common. The root has a warm bitter taste, and is employed as an antispasmodic, generally in substance, although it communicates its properties to wine, water, or spirits. The roots of those plants which

grow in dry situations, are preferred to those of the others. Cats are powerfully affected by the odour of the root. *Eng. Bot.* vol. x. pl. 698. *Eng. Fl.* vol. i. p. 43. 55.

4. *V. pyrendica*. *Heart-leaved Valerian*. Leaves heart-shaped, serrated, stalked, the uppermost pinnated.—Two or three feet high: flowers pale rose-coloured. Perennial: flowers in July: grows in moist woods in various parts of Scotland, where however it is probably not indigenous. *Eng. Bot.* vol. xxiii. pl. 1591. *Eng. Fl.* vol. i. p. 44. 56.

## 2. FEDIA. CORN-SALAD.

Calyx consisting of three or four small teeth. Corolla of one tubular petal, with a protuberance at the base; limb divided into five obtuse segments. Filaments borne upon the tube; anther roundish. Germen inferior, roundish, three-celled. Style thread-shaped; stigma notched. Capsule membranous, three-celled, crowned by the permanent calyx. Seeds solitary, egg-shaped.—Named from *fedus*, a kid. 18.

1. *F. olitoria*. *Common Corn-Salad*, or *Lamb's Lettuce*. Capsule nearly globular, smooth, inflated, crowned with the three inflected teeth of the calyx, of which one is much larger; flowers in heads.—Stem about six inches high, repeatedly forked, furrowed: lower leaves tongue-shaped, stalked, stem-leaves sessile, obtuse, sometimes a little toothed: flowers pale blue, in round heads: with linear, often divided bractæ at their base. Annual: flowers from April to June: grows in corn-fields, and among rubbish: common. *Eng. Bot.* vol. xii. pl. 811. *Eng. Fl.* vol. i. p. 45. 57.

2. *F. dentata*. *Smooth-fruited Corn-Salad*. Capsule egg-shaped, smooth, ribbed in front, taper-pointed, crowned with the prominent cup of the unequally four-toothed calyx; flowers in corymbs, with a sessile one in each fork of the stem.—Stem about ten inches high, repeatedly forked: leaves narrower than in the last, the upper ones more toothed: flowers flesh-coloured, in loose corymbs, with smaller ones in each fork of the stem. Annual: flowers from April to June: grows in corn-fields and hedge-banks: not uncommon. The young leaves of this and the preceding species may be used as salad. *Eng. Bot.* vol. xx. pl. 1370. *Eng. Fl.* vol. i. p. 45. Two varieties with hairy capsules have been described as distinct; the one has the cup of the calyx small, with three teeth, *F. mixta*, *Brit. Fl.* ed. 2. p. 23; the other has the cup of the calyx large, with five unequal teeth, *F. eriocarpa*, *Brit. Fl.* ed. 2. p. 24. Both these varieties are of rare occurrence. 58.

3. *F. Auricula*. *Sharp-fruited Corn-Salad*. Capsule egg-shaped, smooth, somewhat inflated, slightly grooved in front, taper-pointed, crowned with the single tooth of the entire limb of the calyx; flowers in corymbs, a sessile one in each fork of the stem.—Annual: flowers from April to June: grows in fields and hedge-banks: rare. Near Hastings and Bristol. Jersey. Inverkeithing. Fifeshire. *Brit. Fl.* ed. 4. p. 22. 59.

4. *F. carinata*. *Keel-fruited Corn-Salad*. Capsule oblong, smooth, keeled, crowned with the single straight tooth of the limb of the calyx.—Annual: flowers from April to June: discovered by Mr. J. E. Bowman on a hedge-bank in Shropshire. Jersey. *Brit. Fl.* ed. 4. p. 22. 60.

## 3. CROCUS. CROCUS.

Calyx of two unequal, membranous sheaths, arising from the root. Corolla superior; tube long, erect; limb of six oblong equal segments. Filaments awl-shaped, shorter than the corolla; anthers arrow-shaped. Germen inferior, roundish. Style thread-shaped, very long; stigmas three, dilated upwards, folded, jagged. Capsule roundish, three-celled, three-valved. Seeds several, round.—Named from *croce*, a thread. 19.

1. *C. sativus*. *Saffron Crocus*. Stigma in three deep, narrow segments, hanging out of the corolla, tube smooth at the mouth.—Flower purple: stigma deep orange: anthers pale yellow: leaves linear, keeled, curved outwards. Perennial: flowers in September: grows in meadows and pastures in England, where, however, like all the British species of this genus, it is not indigenous, but naturalized. The stigma of this plant is the *Saffron* of the shops. It was formerly greatly esteemed as a cordial, but is now nearly discarded. It gives a beautiful colour to water, wine, or spirits. *Eng. Bot.* vol. v. pl. 343. *Eng. Fl.* vol. i. p. 46. 61.

2. *C. vernus*. *Purple Spring Crocus*. Stigma in three short, wedge-shaped segments, not protruded, tube hairy at the mouth.—Flower purple: stigma pale. Perennial: flowers in March: naturalized in meadows and pastures, in England: rare. About Nottingham. *Eng. Bot.* vol. v. pl. 344. *Eng. Fl.* vol. i. p. 46. 62.

3. *C. minimus*. *Net-rooted Crocus*. Stigma in three blunt undivided segments, not protruded, coat of the bulb strongly reticulated.—Bulb remarkable for its coating of reticulated fibres: corolla yellow, purple, or whitish, the three outer recurved petals marked with three dark purple lines. Perennial: flowers in March. Found at Barton, Suffolk, by Mr. D. Turner. *Eng. Bot. Suppl.* pl. 2645. 63.

4. *C. aureus*. *Golden Crocus*. Two-flowered; stamens longer than the stigma; bulb coated with compact fibres.—Perennial: flowers in March: grows in meadow ground in England: rare. Barton, Suffolk; Charlton Wood, Kent. *Eng. Bot. Suppl.* pl. 2646. *Brit. Fl.* vol. i. p. 23. 64.

5. *C. nudiflorus*. *Naked-flowering Crocus*. Stigma in three deeply-divided, tufted segments, not protruded, of the same height as the stamens.—Corolla pale purple: stigma deep orange: leaves not produced along with the flower, which is solitary. Perennial: flowers in October: grows in sandy meadows, between Nottingham Castle and the Trent. *Eng. Bot.* pl. 491. *Eng. Fl.* vol. i. p. 47. 65.

6. *C. speciosus*. *Showy Autumnal Crocus*. Stigma in three deeply divided segments, not protruded; longer than the stamens.—Flowers appear before the leaves. Perennial: flowers in October: grows in meadows in England: rare. Meadows near Warwick; about Warrington; Halifax, Yorkshire. *Eng. Bot. Suppl.* pl. 2752. *Brit. Fl.* 4th ed. p. 23. 66.

## 4. TRICHONE'MA. TRICHONEMA.

Calyx a sheath of two lance-shaped permanent valves. Corolla superior; tube short, funnel-shaped; limb regular. Filaments arising from the mouth of the tube, much shorter than



the limb; anthers large, oblong. Style longer than the stamens; stigmas three, equal, spreading, divided to the base. Capsule roundish. Seeds round.—Named from *thrix*, a hair, and *nema*, a filament. 20.

1. *T. Bulbocodium*. *Channelled Trichonema*. Leaves linear, channelled, curved back, longer than the flower-stalks.—Bulb, egg-shaped: flowers pale purple. Perennial: flowers in March and April: grows on grassy hillocks: very rare. Guernsey and Jersey. The Warren, Dawlish, Devonshire. *Eng. Bot.* vol. xxxvi. pl. 2549. *Eng. Fl.* vol. i. p. 49. 67.

### 5. IRIS. IRIS.

Calyx a sheath of two leaf-like permanent bracteas. Corolla superior, with six divisions, the three outer larger, rounded, reflected; the three inner erect, narrow. Filaments awl-shaped, lying on the reflected segments. Anthers oblong, depressed. Germen inferior, oblong, three-sided, with three furrows. Style short; stigmas three, very large, resembling petals. Capsule oblong, angular, three-celled, three-valved. Seeds numerous, large.—Named after the rainbow. 21.

1. *I. Pseudacorus*. *Yellow-Iris*, *Water-Flag*, or *Flower-de-luce*. Inner segments of the corolla smaller than the stigmas.—Root large, horizontal, fleshy, acrid: stem from two to four feet high: leaves sword-shaped, erect, deep green: flowers yellow, three together on the top of the stem, the large segments lined with dark purple. Perennial: flowers in June and July: grows in marshy places, and by the sides of streams and lakes, generally in extensive patches, which, in the Hebrides and the North of Scotland, are much frequented by the Corn Crane: frequent. The whole plant is extremely harsh to the taste, but cattle do not refuse the dried leaves. The root has been recommended for alleviating the pain of toothache, and is used for dyeing black in the Hebrides. The leaves make excellent thatch; and are also employed for making bottoms to chairs. Dr. George Johnstone says the roasted seeds make an excellent substitute for coffee. *Eng. Bot.* vol. ix. pl. 578. *Eng. Fl.* vol. i. p. 49. 68.

2. *I. foetidissima*. *Stinking Iris*. Stem with one angle.—Stem about two feet high, cylindrical, but angular on one side: leaves sword-shaped, dull green, when bruised emitting a smell like rancid bacon: flowers dull purplish grey, with darker lines. Perennial: flowers in June and July: in all the south-western counties of England, very common, particularly about Teignmouth, on hedgebanks and sloping ground. Common in Ireland. *Eng. Bot.* vol. ix. pl. 596. *Eng. Fl.* vol. i. p. 50. 69.

### 6. SCHÆNUS. BOG-RUSH.

Calyx a chaff-scale. Corolla none. Spikes of a few flowers, together with numerous, empty, crowned chaff-scales, arranged in two rows. Filaments hair-like; anthers linear, erect. Germen superior, more or less triangular. Style hair-like, simple, deciduous; stigmas three, feathery. Seeds roundish, hard.—Named from *schoinos*, a cord. 22.

1. *S. nigricans*. *Black Bog-rush*. Stem round; spikes of flowers forming a roundish head, overtopped by one of the two floral leaves.

—Root of very long fibres, forming a thick tuft: stem about a foot high, sheathed at the base with broad scales of a blackish colour, the uppermost of which bear narrow acute leaves: spikelets black: anthers long, yellow: stigmas dark purple: seed white, shining. Perennial: flowers in June: grows in bogs and wet moors; common. *Eng. Bot.* vol. xvi. pl. 1121. *Eng. Fl.* vol. i. p. 52. 70.

#### 7. RHYNCHOSPORA. BEAK-RUSH.

Calyx a chaff-scale. Corolla none, excepting a few bristles. Spikes of a few flowers, together with numerous, empty, crowded chaff-scales, imbricated all round. Filaments hair-like; anthers linear, erect. Germen superior, roundish. Style hair-like, enlarged at the base. Seed roundish, hard, crowned by the permanent base of the style.—Named from *rhynchos*, a beak, and *spora*, a seed. 23.

1. *R. alba*. *White-headed Beak-rush*. Leaves tapering, linear, channelled; spikes forming a somewhat corymbose head; stamens two.—Stem from five to ten inches high, triangular, very slender: leaves erect: larger floral leaf a little longer than the head of flowers, which is white: stigmas two: seed inversely egg-shaped. Perennial: flowers in July and August: grows on wet heaths and in boggy places: common. *Eng. Bot.* vol. xiv. pl. 985. *Eng. Fl.* vol. i. p. 52. 71.

2. *R. fusca*. *Brown-headed Beak-rush*. Leaves thread-shaped; spikes forming an egg-shaped head; three stamens.—Smaller than the last: leaves not tapering: head of flowers reddish-brown. Perennial: flowers in June: grows in bogs, chiefly in the South of England and in Ireland: rare. *Eng. Bot.* vol. xxii. pl. 1575. *Eng. Fl.* vol. i. p. 53. 72.

#### 8. CYPERUS. CYPERUS.

Calyx a chaff-scale. Corolla none. Spikes of numerous flowers, all perfect, excepting one or two at the bottom, imbricated in two rows. Filaments short; anthers linear. Germen roundish; style deciduous. Seed pointed.—Name, *cypeiros* of the Greeks. 24.

1. *C. longus*. *Sweet Cyperus*. *English Galingale*. Umbel leafy, twice compounded; fruit-stalks naked; spikes alternate.—Stem from two to three feet high: spike-stalks sometimes amounting to twelve or thirteen, forming an umbel: spikes brown, five or six together. The root is agreeably aromatic to the smell, and warm and bitter to the taste. Perennial: flowers in July: grows in marshes: very rare. By a rivulet between St. David's Town and St. David's Head; at Walton, in Gordon, Somersetshire. *Eng. Bot.* vol. xix. pl. 1309. *Eng. Fl.* vol. i. p. 54. 73.

2. *C. fuscus*. *Brown Cyperus*. Umbel with three leaves, compound; spikes crowded, spreading in all directions.—Stem about six inches high: spikes numerous, brown. Annual: flowers in September. Found by Mr. Haworth in a meadow near Little Chelsea. *Eng. Bot. Suppl.* pl. 2626. *Eng. Fl.* vol. i. p. 54. 74.

#### 9. SCIRPUS. CLUB-RUSH.

Calyx an egg-shaped, concave chaff-scale. Corolla none. Spike of numerous flowers, all perfect. Filaments thread-like;

anthers linear. Style simple, deciduous; stigmas three, downy. Seed three-cornered, sometimes furnished with soft hairs at the base.—Name, *cirs*, Celtic for cord. 25.

\* *Spikes solitary.*

1. *S. cœspitōsus*. *Scaly-stalked Club-rush*. Straw round, sheathed with numerous scales at the base, some of them bearing short leaves; two outer chaff-scales as long as the spike.—Stems numerous, from four to twelve inches high, growing in dense tufts, striated, upper sheaths ending in a short leaf: spike small, reddish-brown. Perennial: flowers in July: grows on peat soil: abundant. This is one of the most important of our native plants, in respect to pasturage. Its very numerous long fibrous roots form the principal part of the spongy varieties of peat. In the Highlands it is often seen occupying extensive tracts, almost exclusively, and forms excellent summer pasturage for cows, horses, and sheep. *Eng. Bot.* vol. xv. pl. 1029. *Eng. Fl.* vol. i. p. 17. 75.

2. *S. pauciflorus*. *Chocolate-headed Club-rush*. Straw round, sheathed at the base, leafless; two outer chaff-scales shorter than the spike.—Spike smaller and darker than in the last: straw about six inches high: it resembles the last in its mode of growth and qualities. Perennial: flowers in July: grows abundantly in Scotland. *Eng. Bot.* vol. xvi. pl. 1122. *Eng. Fl.* vol. i. p. 17. 76.

3. *S. fluitans*. *Floating Club-rush*. Straw round, branched, leafy; spikes destitute of external enlarged scales.—Stem from six to ten inches long, slender, zig-zag, much branched: leaves linear, keeled, sheathing: spikes small, few-flowered, pale green: no bristles beneath the seed. Perennial: flowers in August: grows in ditches, and in shallow water on heaths. *Eng. Bot.* vol. iii. pl. 216. *Eng. Fl.* vol. i. p. 57. 77.

\*\* *Stem round, bearing several spikes.*

4. *S. lacustris*. *Bull-rush*. *Great Club-rush*. Stem round, leafless; panicle cymose, twice compounded; bractees two, shorter than the panicle.—Stems from four to six feet high, smooth, internally spongy: lower sheaths dark brown: a few short leaves at the base of the straw: spikes brown, forming a cyme or panicle. Perennial: flowers in July: grows in pools, and the edges of rivers, with muddy bottoms. It is sometimes used as thatch. Bottoms of chairs are very commonly made of it, as well as mats. *Eng. Bot.* vol. x. pl. 666. *Eng. Fl.* vol. i. p. 57. 78.

5. *S. Holoschæmus*. *Round-headed Club-rush*. Stem round, leafless; spikes nearly globular, closely set together, stalked; bractees two, leafy, unequal, sharp-pointed.—Stems firm, about a foot high: spikes brown: the globular spikes, supported on stalks of various lengths, distinguish this at first sight from every other species. Perennial: flowers in July: grows on the sea-coast in the south of England: rare. Brounton Boroughs, Devonshire, &c. *Eng. Bot.* vol. xxiii. pl. 1612. *Eng. Fl.* p. 58. 79.

6. *S. seticeus*. *Bristle-stalked Club-rush*. Stem bristle-like, leafy at the base; spikes few, sessile; bractea leafy, surmounting the spikes; fruit inversely egg-shaped, ribbed, and marked with transverse lines; stamens two.—Stems numerous, very slender, from

two to five inches high: spikes from one to three, egg-shaped, greenish-brown. Annual: flowers in July and August: grows in moist sandy or gravelly places. *Eng. Bot.* vol. xxiv. pl. 1693. *Eng. Fl.* vol. i. p. 59. 80.

7. *S. Savii*. *Savi's Club-rush*. Stem bristle-like, leafy at the base; spikes few, sessile; fruit nearly round, rough with small points; stamens three.—Perennial: flowers in July and August: grows in wet bogs: not common. Common in Ireland, and in the West of England and Scotland. Channel Islands. *Eng. Bot. Suppl.* pl. 2782. *Brit. Fl.* 4th ed. p. 26. 81.

8. *S. caricinus*. *Compressed Club-rush*. Stem roundish, leafy at the base; spikes collected into a two-rowed cluster; bractea leafy, surmounting the spikes; leaves flat, keeled.—Stem about a foot high, simple: leaves keeled, rough on the edges and keel: spikes chestnut brown. Perennial: flowers in July: grows in boggy places. *Eng. Bot.* vol. xi. pl. 791. *Eng. Fl.* p. 59. 82.

9. *S. rufus*. *Brown Club-rush*. Stem round, leafy at the base; spikes collected into a two-rowed cluster; bractea short; leaves channelled.—More slender than the last: stems about six inches high: leaves shorter and bristle-like, not flat or keeled: spike dark brown. Perennial: flowers in June and July: grows in boggy places. *Eng. Bot.* vol. xv. pl. 1010. *Eng. Fl.* vol. i. p. 60. 83.

\*\*\* *Stem triangular, bearing several paniced spikes.*

10. *S. triquetér*. *Triangular Club-rush*. Stem acutely triangular; spikes lateral; stigmas two.—Stems three feet high, acutely triangular, with the sides hollowed, the point erect and sharp: a single, short leaf: spikes egg-shaped, in a panicle coming from the side of the straw, near the top. Perennial: flowers in July and August: grows on the banks of large rivers exposed to the tide, as of the Thames, both above and below London: rare. *Eng. Bot.* vol. xxiv. pl. 1694. *Eng. Fl.* vol. i. p. 60. 84.

11. *S. carinátus*. *Blunt-edged Club-rush*. Stem bluntly triangular; spikes terminal; stigmas two.—Stems triangular, with the sides convex: panicle terminal, with a longish bractea: spikes egg-shaped, brown. Perennial: flowers in July and August: grows on the banks of large rivers exposed to the tide; along the Thames, &c.: rare. *Eng. Bot.* vol. xxviii. pl. 1983. *Eng. Fl.* vol. i. p. 61. 85.

12. *S. marítimus*. *Saltmarsh Club-rush*. Stem triangular; panicle terminal, leafy; scales of the spikes three-cleft, the middle segment awl-shaped; stigmas three.—Stem from one to three feet high, leafy at the base and summit: leaves keeled, rough at the edges: spikes egg-shaped, reddish-brown. Perennial: grows on the banks of large rivers exposed to the tide, and in salt marshes: not uncommon. *Eng. Bot.* vol. viii. pl. 542. *Eng. Fl.* vol. i. p. 62. 86.

13. *S. sylvaticus*. *Wood Club-rush*. Stem triangular, leafy; cyme terminal, repeatedly compound, leafy; scales of the spikes entire; stigmas three.—Stem from two to three feet high, leafy: leaves flat, rough at the edges and keel: spikes small, very numerous, dark brown, arranged in a compound paniced cyme. Perennial: grows in moist woods: flowers in July: common in Ireland, less so in England. *Eng. Bot.* vol. xiii. pl. 919. *Eng. Fl.* vol. i. p. 62. 87.

## 10. ELEOCHARIS. SPIKE-RUSH.

**Calyx** a chaff-scale. **Corolla** none. **Spikes** imbricated all round. **Filaments** hair-like. **Anthers** linear. **Germen** compressed. **Style** enlarged at the base, united to the germen by a narrow joint. **Seed** triangular, crowned by the permanent style. —Named from *elos*, a marsh, and *chairo*, to rejoice. . 26.

1. *E. palustris*. *Common Spike-rush*. Stems round; stigmas two; seed flattened.—Roots fibrous: stems many together, erect, smooth, from six inches to a foot and a half high: sheaths at the base two or three, the upper long close, and green, the others brown: no leaves: spike egg-shaped or oblong, acute, reddish-brown. Perennial: flowers in June and July: grows in ditches, rivulets, and marshy ground, and at the edges of pools and lakes: abundant. *Eng. Bot.* vol. ii. pl. 131. *Eng. Fl.* vol. i. p. 64. 88.

2. *E. multicaulis*. *Many-stalked Spike-rush*. Stems round; stigmas three; seed acutely triangular.—Root fibrous: stems numerous, smooth, spreading, eight or ten inches high: spikes smaller and more slender than in the last. Perennial: flowers in July: grows in wet moors. This seems to be merely a variety of the last. *Eng. Bot.* vol. xvii. pl. 1187. *Eng. Fl.* vol. i. p. 64. *Brit. Fl.* p. 29. 89.

3. *E. aciculáris*. *Least Spike-rush*. Stem four-cornered; stigmas three.—Roots creeping, fibrous, thread-like: stems thread-like, about three inches high: leaves none, the parts usually considered as such being sterile stems: spike very small, narrow, elliptical, brownish. Perennial: flowers in July and August: grows by the sides of lakes, and in wet places on moors. *Eng. Bot.* vol. xi. pl. 749. *Eng. Fl.* vol. i. p. 65. 90.

## 11. ERIOPHORUM. COTTON-GRASS.

**Calyx** a flat membranous chaff-scale. **Corolla** none. **Spike** imbricated all round. **Filaments** hair-like; **anthers** linear, protruded, pendulous. **Germen** inversely egg-shaped. **Style** thread-shaped; stigmas three, longer than the style, reflected. **Seed** three-cornered, tapering to a point, furnished at the base with very long, soft, silky hairs.—Name from *erion*, wool, and *phero*, to bear. 27.

\* *Spike single*.

1. *E. vaginatum*. *Hare's-tail Cotton-grass*. Stem triangular above, round below; uppermost sheath inflated; spike egg-shaped.—Root creeping: stems jointed, smooth, about a foot high: leaves channelled, sheathing: spike large, egg-shaped, pointed, blackish, with membranous scales: hairs numerous, long, white, and shining. Perennial: flowers in March and April: grows on heaths, and in boggy places: common. *Eng. Bot.* vol. xiii. pl. 873. *Eng. Fl.* vol. i. p. 66. 91.

2. *E. capitatum*. *Round-headed Cotton-grass*. Stem round in its whole length; uppermost sheath inflated; spike roundish.—Root creeping: stems jointed, smooth, about eight inches high: leaves thicker than in the last: chaff-scales smaller, but firmer, brown: hairs much shorter. Perennial: flowers in July and August: grows in heaths in high situations: very rare. Ben Lawers. G. Don. *Eng. Bot.* vol. xxxiv. pl. 2387. *Eng. Fl.* vol. i. p. 67. 92.

\*\* Several spikes on each stem.

3. *E. angustifolium*. Common Cotton-grass. Stem somewhat triangular; leaves linear; channelled; spike-stalks smooth; hairs four times the length of the spike.—Root creeping: stems from two to three feet high, jointed, and leafy: spikes generally four, of which one is sessile: leaves very narrow, triangular, rough on the edges. Perennial: flowers in April: grows on wet heaths, in peat bogs and ditches: common. *Eng. Bot.* vol. viii. pl. 564. *Eng. Fl.* vol. i. p. 69. 93.

4. *E. polystachion*. Broad-leaved Cotton-grass. Stem round; leaves broadly linear, flat; stalks of the spike smooth; hairs three times the length of the spike.—Root fibrous: stems two feet high, grooved, jointed, and leafy: leaves broader than in the last, with an acute keel: spikes four or five, one sessile, brown, pendulous after flowering. Perennial: flowers in June: grows on wet heaths and in peat bogs: common in Scotland. *Eng. Bot.* vol. viii. pl. 563. *Eng. Fl.* vol. i. p. 68. 94.

5. *E. pubescens*. Downy-stalked Cotton-grass. Stem triangular above, round below; leaves flat, lance-shaped; spike-stalks rough; hairs twice the length of the spike.—Smaller than the last: spikes numerous, black, their stalks downy: leaves broader and shorter than in the last. Perennial: grows in bogs and marshes: common in Scotland; rare in England and Ireland. *Eng. Bot. Suppl.* pl. 2633. *Eng. Fl.* vol. i. p. 69. 95.

6. *E. gracile*. Slender Mountain Cotton-grass. Stem triangular; leaves triangular, channelled, leafy; fruit-stalks downy; hairs twice the length of the spike.—Root creeping: stem a foot high: leaves linear, triangular, recurved: spikes three or four, nearly erect, longer than their bractea, black. Perennial: flowers in July: found in boggy places on Ben Lawers and the Clova mountains, by G. Don. North Wales. *Eng. Bot.* vol. xxxiv. pl. 2402. *Eng. Fl.* vol. i. p. 70. 96.

## 12. NARDUS. MAT-GRASS.

Calyx none. Corolla of two lance-shaped pointed husks, the outer embracing the inner. Filaments hair-like; anther oblong. Germin superior, oblong, small. Style thread-shaped, long; stigma feathery. Seed one, long and narrow, pointed at both ends, invested with the husks.—Name from *nardos* of the Greeks. 28.

1. *N. stricta*. Mat-grass. Spike slender, straight, the flowers pointing in one direction.—Root consisting of very long tough, downy fibres: stems numerous, about six inches high, wiry: leaves bristle-like: numerous broad stiff sheaths around the base of the stems. This grass forms dense tufts, and is of a pale greyish green colour. Perennial: flowers in June and July: grows on heaths, generally in sandy or gravelly soil: abundant. *Eng. Bot.* pl. 290. *Eng. Fl.* vol. i. p. 70. 97.

## DIGYNIA.

[This order contains all the British Grasses, excepting *Nardus stricta* and *Anthoxanthum odoratum*. The grasses, as every person must have observed, form the basis of all our best pastures; and in some places, certain species, such as *Festuca ovina* and *durius-*

*cula*, exclude almost every other plant. The great utility of these plants hardly requires to be remarked. Wheat, barley, oats, and rye, belong to this great family, but are all of exotic origin. Almost all the species are eaten by cattle, especially when young and tender, although they usually refuse the straws after flowering. *Lolium temulentum* is the only species that possesses poisonous properties. Young botanists generally dislike the examination of these plants, on account of its supposed difficulty; but with a little attention, the species can in almost every case be satisfactorily determined.]

### 13. PHALANIS. CANARY-GRASS.

Calyx one-flowered, of two nearly equal, keeled, compressed, acute chaff-scales. Corolla double, concealed by the calyx, of three or four husks, the two inner larger, downy. Nectaries two equal, egg-shaped scales. Filaments thread-like; anthers oblong. Styles short, with feathery stigmas. Seed egg-shaped, invested by the hardened internal husks.—Named from *phalos*, shining. 29.

1. *P. canariensis*. *Canary Grass*. Panicle egg-shaped, close; chaff-scales keeled, hairy; outer corolla of two bare husks.—About eighteen inches high: straw erect, striated, roughish: leaves lance-shaped, soft: panicle erect, compound, resembling an egg-shaped spike, beautifully variegated with green and white: this is a foreign species, the seeds of which accidentally dropped, sometimes spring up in waste places and upon dunghills. Annual: flowers in July: frequent. *Eng. Bot.* vol. xix. pl. 1310. *Eng. Fl.* vol. i. p. 75. 98.

2. *P. arundinacea*. *Reed Canary Grass*. Panicle erect, loose; outer husks bearded.—Roots creeping, sending out large fibres: straws from three to five feet high: leaves lance-shaped, striated, smooth: panicle about six inches long, tinged with purple: chaff-scales acute, keeled with a nerve on each side, rough on the keel and nerves: outer husks minute, each terminated by a tuft of hairs. Perennial: flowers in July: grows by the edges of rivers: common. This plant has altogether the appearance of an *Arundo*; a variety with striped leaves, is common in gardens. *Eng. Bot.* vol. vi. pl. 402, and vol. xxx. pl. 2160, f. 2. *Eng. Fl.* vol. i. p. 75. 99.

### 14. PHLEUM. CAT'S-TAIL-GRASS.

Calyx one-flowered, of two nearly equal, compressed, pointed or awned chaff-scales. Corolla of two concealed, unequal husks, the outer embracing the inner. Filaments hair-like; anthers linear, protruded. Germen roundish. Styles thread-like, spreading, stigmas feathery. Seed oblong, loose.—Name *phlees* of the Greeks. 30.

1. *P. pratense*. *Common Cat's-tail-grass*. *Timothy Grass*. Panicle spiked, cylindrical; chaff-scales abrupt, fringed on the keel, longer than the awn.—Root fibrous: straws from two to three feet high, knotty, erect: leaves linear, flat, rough, with long sheaths: panicle erect, very close, spiked, of a cylindrical form, from two to four inches long, green: the roots are sometimes bulbous. Perennial: flowers in the summer months: grows in meadows and pastures: common. *Eng. Bot.* vol. xv. pl. 1078. *Eng. Fl.* vol. i. p. 76. 100.

2. *P. alpinum*. *Alpine Cat's-tail-grass*. Panicle spiked, between

egg-shaped and oblong; chaff-scales abrupt, fringed on the keel, as long as the awns; root knotted.—Straw ascending, from six to twelve inches long, smooth: spiked panicle about an inch in length. Perennial: flowers in July: grows on some of the higher mountains of Scotland, as Ben Lawers, and Ben-na-buir; and on Lettery mountain, Galway, Ireland: rare. *Eng. Bot.* vol. xv. pl. 1077. *Eng. Fl.* vol. i. p. 77. 101.

3. *P. Michéliei*. *Michéliean Cat's-tail-grass*. Panicle spiked, cylindrical, chaff-scales lance-shaped, pointed, fringed on the keel.—Roots fibrous: straws from one to two feet high, leafy: leaves flat, rough on the edges: panicle close, about two inches long. Perennial: flowers in July. Found by Mr. G. Don on the rocky parts of the Clova mountains. *Eng. Bot.* vol. xxxii. pl. 2265. *Eng. Fl.* vol. i. p. 78. 102.

4. *P. asperum*. *Branched Cat's-tail-grass*. Panicle spiked, cylindrical; chaff-scales wedge-shaped, pointed, rough, with a bare keel.—Root fibrous: straw about a foot high, branched, smooth: leaves roughish, pointed, erect: panicles terminal, erect, cylindrical, about two inches long. Annual: flowers in July: grows in dry fields: rare. Near Bristol; on Newmarket Heath; in Badmington Park, Gloucestershire; in Bedfordshire, &c. *Eng. Bot.* vol. xv. pl. 1077. *Eng. Fl.* vol. i. p. 77. 103.

5. *P. Boehmerii*. *Purple-stalked Cat's-tail-grass*. Panicle spiked, cylindrical; chaff-scales lance-shaped, pointed, slightly hairy; straw simple.—Roots fibrous: straws about a foot high, erect, purple: chaff-scales purple. Perennial: flowers in July: grows in dry fields, in the western parts of England: rare. Norfolk and Cambridge. *Eng. Bot.* vol. vii. pl. 459. *Eng. Fl.* vol. i. p. 78. 104.

6. *P. arenarium*. *Sea-side Cat's-tail-grass*. Panicle spiked, oblong, enlarged at the top; chaff-scales lance-shaped, fringed.—Root fibrous: straws about six inches high, leafy below: spiked panicle short, enlarged above: husks half the length of the chaff-scales. Perennial: flowers in July: grows in sand on the sea-shore. *Eng. Bot.* vol. iv. pl. 222. *Eng. Fl.* vol. i. p. 79. 105.

#### 15. ALOPECURUS. FOX-TAIL-GRASS.

Calyx one-flowered, of two nearly equal, egg-shaped, ribbed chaff-scales. Corolla of one concave egg-shaped husk. Awn twice as long as the husk, and arising from its base. Filaments hair-like; anthers forked at each end. Germen roundish. Styles hair-like, united at the base; stigmas long, feathery. Seed egg-shaped, loose, covered by the husk.—Name from *alopex*, a fox, and *oura*, a tail. 31.

1. *A. pratensis*. *Meadow Fox-tail-grass*. Straw erect, smooth; panicle spiked, cylindrical; chaff-scales acute, hairy, shorter than the awn of the husk.—Root fibrous: straws about two feet high: leaves flat, nearly smooth: spiked panicle about two inches long, hoary. Perennial: flowers in May: grows in meadows and pastures: common. *Eng. Bot.* vol. xi. pl. 759. *Eng. Fl.* vol. i. p. 80. 106.

2. *A. Alpinus*. *Alpine Fox-tail-grass*. Straw erect, smooth; panicle spiked, egg-shaped; chaff-scales obliquely abrupt, hairy; awn a little longer than the husk.—Root creeping: straw about a foot high, erect, smooth: root-leaves narrow, the other broader: spiked



panicle hardly an inch long: chaff-scales united at the base, three-ribbed, covered with long, close, white hairs. Perennial: flowers in July: grows on some of the highest mountains of Scotland. Discovered by Mr. R. Brown on Lock-na-gar, in Aberdeenshire; Clova mountains, Forfarshire. *Eng. Bot.* vol. xvi. pl. 1126. *Eng. Fl.* vol. i. p. 81. 107.

3. *A. agrætis*. *Slender-Fox-tail-grass*. Straw erect; roughish above; panicle spiked, cylindrical, tapering at the end; chaff-scales acute, nearly bare; awn twice the length of the calyx.—Root fibrous: straws about two feet high: leaves rough above: spike slender, three inches long, purplish: chaff-scales lance-shaped. Annual: flowers in July: grows in cultivated fields and by waysides. *Eng. Bot.* vol. xii. pl. 848. *Eng. Fl.* vol. i. p. 81. 108.

4. *A. bulbosus*. *Bulbous Fox-tail-grass*. Straw erect; spike simple; chaff-scales separate, linear, acute, downy; root bulbous.—Root bulbous: straws erect, smooth: leaves narrow, striated: spike dark green: chaff-scales narrow, with the keel and ribs fringed: husk bluntish, its awn twice the length of the calyx. Perennial: flowers in July: grows in salt marshes in England: rare. Near Yarmouth and Weymouth. *Eng. Bot.* vol. xviii. pl. 1249. *Eng. Fl.* vol. i. p. 82. 109.

5. *A. geniculatus*. *Floating Fox-tail-grass*. Straw ascending, bent at the joints; panicle spiked, cylindrical; chaff-scales united at the base, abrupt, fringed; awn twice the length of the calyx.—Root fibrous: straw decumbent at the base: leaves broader and shorter than in the last: spikes an inch and a half long: chaff-scales obtuse, purple, twice the length of the calyx. Perennial: flowers in June and July: grows in ditches and watery places: common. *Eng. Bot.* vol. xviii. pl. 1250. *Eng. Fl.* vol. i. p. 83. 110.

6. *A. fulvus*. *Orange-spiked Fox-tail-grass*. Straw ascending, bent at the joints; panicle spiked, cylindrical; chaff-scales united at the base, obtuse, fringed; awn as long as the calyx.—This is hardly distinct from the last, the comparative length of the awn affording the only remarkable difference. Perennial: flowers in June and July: grows in ditches and watery places: not unfrequent. *Eng. Bot.* pl. 1467. *Eng. Fl.* vol. i. p. 83. 111.

## 16. KNA'PIA. KNAPPIA.

Calyx one-flowered, of two nearly equal, keeled, egg-shaped, abrupt, awnless chaff-scales. Corolla of two unequal, inversely egg-shaped, membranous, hairy, fringed, awnless husks, shorter than the calyx. Filaments hair-like, twice the length of the calyx; anthers oblong, cleft at both ends. Germen minute, roundish. Styles short, stigmas long, cylindrical, acute, downy. Seed loose, egg-shaped, covered by the husks.—Named after Mr. Knapp. 32.

1. *K. agrostidea*. *Early Knappia*.—Root fibrous: stems from one to three inches high, erect, slender, triangular: leaves short, channelled, at the base of the stem: flowers purplish, nearly sessile. Annual: flowers in March and April: grows in sandy pastures by the sea-shore, in the south of England, Wales, and in Ireland: rare. *Eng. Bot.* vol. xvi. pl. 1127. *Eng. Fl.* vol. i. p. 84. 112.

## 17. POLYPOGON. BEARD-GRASS.

Calyx one-flowered, of two nearly equal, keeled, cleft chaff-scales, each with a terminal awn. Corolla of two egg-shaped husks, inclosed within the calyx; the outer keeled and awned. Filaments hair-like, as long as the corolla; anthers oblong, cleft at both ends. Germen oval. Styles short, distinct; stigmas feathery. Seed loose, egg-shaped, covered by the husks.—Named from *polus*, much, and *pogon*, beard. 33.

2. *P. Monspelienis*. Annual Beard-grass. Awns straight, thrice the length of the calyx; root fibrous.—Straws a foot high, simple, smooth: leaves flat, acute, striated, rough on the edges and ribs: panicle pale. Annual; flowers in July and August: grows in moist pastures, in Hampshire, Essex, and Norfolk: rare. *Eng. Bot.* vol. xxiv. pl. 1704. *Eng. Fl.* vol. i. p. 86. 113.

2. *P. littoralis*. Perennial Beard-grass. Awns straight, about the length of the calyx; root creeping.—Straws about a foot high, branched, smooth: leaves rough on both sides and on the edges: panicle purplish. Perennial: flowers in July and August: grows in salt marshes in Norfolk and Essex: rare. *Eng. Bot.* vol. xviii. pl. 1251. *Eng. Fl.* vol. i. p. 87. 114.

## 18. MILIUM. MILLET-GRASS.

Calyx one-flowered, of two unequal, egg-shaped, tapering, awnless chaff-scales. Corolla of two unequal, egg-shaped husks, inclosed within the calyx, the outermost sometimes awned on the back. Nectaries membranous, cleft. Filaments hair-like, very short. Germen egg-shaped. Styles united, or very short. Seed egg-shaped, covered with the hardened husks.—Named from *mille*, a thousand (seeds tour). 34.

1. *M. effusum*. Spreading Millet-grass. Flowers awnless, in a loose, spreading panicle.—Root fibrous: straws about four feet high, slender, smooth: leaves broad, flat, bright green: panicle large, widely-spreading. Perennial: flowers in June and July: grows in moist shady places: frequent. *Eng. Bot.* vol. xvi. pl. 1106. *Eng. Fl.* vol. i. p. 87. 115.

2. *M. lendigerum*. Panick Millet-grass. Flowers awned, in a dense, spiked panicle.—Root fibrous: panicle erect, very close, tapering, pale-green. Annual: flowers in August: grows in moist meadows, in England; Sheppey; Weymouth; Gillingham: not common. *Eng. Bot.* vol. xvi. pl. 1107. *Eng. Fl.* vol. i. p. 88. 116.

## 19. AGROSTIS. BENT-GRASS.

Calyx of two unequal, acute, keeled, awnless, permanent chaff-scales, containing one flower. Corolla of two unequal, membranous, ribbed husks; tufted with hairs at the base, the larger frequently bearing an awn. Nectaries two minute scales. Filaments hair-like, rather longer than the husks; anthers deeply divided at each end. Germen egg-shaped. Styles short. Stigma densely hairy. Seed egg-shaped, shining, loose, enveloped in the unaltered corolla.—Named from *agros*, a field. 35.

\* *Awned.*

1. *A. spica-vénti*. *Silky Bent-grass*. Awn straight, stiff, many times longer than the corolla; panicle loosely spreading.—Straw two or three feet high, erect, smooth: leaves ribbed, spreading: panicle large, silky-looking: outer husk rough with tubercles, inner cleft at the point. Annual: flowers in June and July: grows in sandy fields in England: rare. *Eng. Bot.* vol. xiv. pl. 951. *Eng. Fl.* vol. i. p. 89. 117.

2. *A. canina*. *Brown Bent-grass*. Awn arising from below the middle of the husk, curved inwards, twice the length of the husks; stems decumbent, with prostrate shoots; stipules lance-shaped.—Root creeping: straws more or less decumbent and rooting at the base, about two feet long, slender, smooth: leaves roughish on both sides: panicle spreading when in flower, with thread-like, angular, rough branches. Perennial: flowers in June and July: grows in meadows and pastures: common. *Eng. Bot.* vol. xxvi. pl. 1856. *Eng. Fl.* vol. i. p. 90. 118.

3. *A. setacea*. *Bristle-leaved Bent-grass*. Awn from near the base of the husk, curved inwards; chaff-scales lance-shaped, tapering, rough; root-leaves bristle-shaped; straw nearly erect; panicle close.—Root tufted: stems about a foot high, slender, smooth: stipules lance-shaped: panicles cylindrical, with angular, bristly branches: inner husk very small. Perennial: flowers in July and August: grows on dry heaths in the south of England. *Eng. Bot.* vol. xvii. pl. 1188. *Eng. Fl.* vol. i. p. 91. 119.

\*\* *Generally awnless.*

4. *A. vulgaris*. *Fine Bent-grass*. Panicle spreading, with smooth, divaricated hair-like branches: chaff-scales nearly equal; straw erect; stipules very short, abrupt.—Root creeping: straws about a foot high: panicle smooth, with purplish flowers. Perennial: flowers in July and August: grows in meadows and pastures: common. *Eng. Bot.* vol. xxiv. pl. 1671. *Eng. Fl.* vol. i. p. 92. 120.

5. *A. alba*. *Marsh Bent-grass*. Panicle spreading, with rough branches; chaff-scales lance-shaped, bristly on the keel; straw oblique, creeping in its lower part; stipules oblong.—Root and stems creeping, and sending out long prostrate shoots: panicle at length spreading, with tufted branches, and green or purple flowers. Perennial: flowers in June and July: grows in moist meadows, and places inundated in winter, and on the other hand frequently in dry sand, exhibiting great diversity of appearance: common. This is the famous Fiorin-grass of agriculturists. It hardly deserves the notice which it has received. Wild geese and ducks are fond of its juicy stems and roots, which have a sweet taste. *Eng. Bot.* vol. xvii. pl. 1189, and vol. xxii. pl. 1532. *Eng. Fl.* vol. i. p. 93. 121.

## 20. CYNODON. DOG'S-TOOTH-GRASS.

Calyx of two nearly equal lance-shaped, acute, keeled, awnless scales, containing a single flower. Corolla of two unequal, keeled, compressed, awnless husks, the outer much broader and embracing the other. Nectary of two minute scales. Filaments rather longer than the husks. Anthers cleft at both ends. Germen egg-shaped. Styles distinct. Stigma feathery. Seed egg-shaped, invested by the hardened husks.—Named from *cyon*, a dog, and *odous*, a tooth. 36.

1. *C. dactylon*. *Creeping Dog's-tooth-grass*. Spikes four or five, crowded; husks smooth.—Root creeping, rough: straws creeping, round, smooth: leaves tapering, hairy, with long, smooth sheaths: flowering branches about six inches high, each bearing four or five linear spikes. Perennial: flowers in July and August: grows on the sandy shores of Cornwall. *Eng. Bot.* vol. xii. pl. 850. *Eng. Fl.* vol. i. p. 95. 122.

#### 21. DIGITARIA. FINGER-GRASS.

Calyx one-flowered, of three very unequal, awnless scales; the outer minute, triangular; the next largest, as long as the corolla; the inner opposite to the latter, small, lance-shaped. Corolla of two unequal, elliptical, awnless valves. Filaments hair-like, rather longer than the husks; anthers short, cleft at both ends. Germen egg-shaped. Styles thread-shaped, about the length of the stamens; stigmas short, feathery. Seed egg-shaped, closely invested by the hardened polished husks.—Named from *digitus*, a finger. 37.

1. *D. sanguinalis*. *Cock's-foot Finger-grass*. Leaves and their sheaths somewhat hairy; flowers in pairs; calyx rough at the edges of its larger scale only.—Root fibrous: stems decumbent and rooting at the base, about a foot long, striated, smooth: leaves broad, pointed, striated, sprinkled with warts: spikes from three to eight, crowded at the top of the straw: flowers dark purple, erect: larger chaff-scale five-ribbed, with rough edges. Annual: flowers in July and August: grows in various parts of England, in sandy cultivated fields: rare. *Eng. Bot.* vol. xii. pl. 849, *Panicum sanguinale*. *Eng. Fl.* vol. i. p. 97. 123.

2. *D. humifusa*. *Smooth Finger-grass*. Leaves and their sheaths smooth; flowers egg-shaped, downy.—Root fibrous: stalks spreading: flowers purple. Annual: flowers in July and August: grows in sand at Weybridge, in Sussex, where it was found by Mr. Borrer. This and the above have probably been introduced into Britain with foreign corn. *Eng. Bot. Suppl.* pl. 2613. *Brit. Fl.* 4th ed. p. 54. 124.

#### 22. PANICUM. PANICK.

Calyx two-flowered, of two very unequal, ribbed chaff-scales, the inner much larger, elliptical, generally awnless. One flower perfect; the other either neutral or stameniferous. Corolla of the former of two unequal, membranous, acute husks; in the latter of one or two husks, the outer of the texture of the calyx, concave ribbed, sometimes awned, the inner flat, awnless, often wanting. Filaments hair-like, as long as the corolla; anthers short, cleft at both ends. Germen egg-shaped. Styles distinct, awl-shaped, as long as the stamens; stigmas feathery, short. Seed egg-shaped, flattened on one side, closely invested with the hardened husks.—Name uncertain, perhaps from *panis*, bread. 38.

1. *P. verticillatum*. *Rough Panick-grass*. Panicle spiked, cylindrical, lobed with whorled branches; flowers in pairs, accompanied with angular bristles, rough with reversed teeth.—Root fibrous: straws two feet high, smooth, spreading: leaves lance-shaped, rough on both sides, with long smooth sheaths: stipules of numerous short hairs: calyx pale, with green ribs, smooth:

husks minutely wrinkled. Annual: flowers in July and August: grows in corn-fields about London and Norwich: rare. *Eng. Bot. vol. xiii. pl. 874. Eng. Fl. vol. i. p. 98.* 125.

2. *P. viride. Green Panick-grass.* Panicle spiked, cylindrical, continuous, with numerous prominent bristles, rough, with erect teeth.—Smaller than the last, but closely resembling it, the principal difference lying in the more numerous bristles with teeth directed upwards. Annual: flowers in July and August: grows in sandy fields about London and Norwich: rare. *Eng. Bot. vol. xiii. pl. 875. Eng. Fl. vol. i. p. 99.* 126.

3. *P. Crus-galli. Loose Panick-grass.* Panicle erect, branched, bristly; flowers awned, unilateral; leaves lance-shaped, harsh, destitute of stipules.—Root fibrous: stems about a foot high, smooth: leaves pointed: panicle erect, stiff, unilateral, with angular rough-edged stalks. Annual: flowers in July and August: grows in wet corn-fields near London: rare. Neither this species nor the two preceding are indigenous, having been introduced among corn. *Eng. Bot. vol. xiii. pl. 876. Eng. Fl. vol. i. p. 100.* 127.

### 23. AIRA. HAIR-GRASS.

Calyx of two unequal, keeled chaff-scales, containing two perfect flowers, without rudiments of a third. Corolla of two oblong, unequal husks, the outer larger, generally with a twisted awn arising from above the base, the inner notched and awnless. Nectary a cleft scale. Filaments hair-like; anthers protruded, pendulous, notched at both ends. Germen egg-shaped. Styles short, distinct; stigma large, feathery. Seed egg-shaped, loose, covered with the membranous husks.—Named from *airo*, to destroy, formerly applied to *Lolium temulentum*. 39.

#### \* Corolla awnless.

1. *A. cristata. Crested Hair-grass.* Panicle dense; calyx longer than its stalk, shorter than the flowers; chaff-scales and husks pointed.—Root in dense tufts with downy fibres: stems erect, about nine inches high: panicle close, lance-shaped, with silvery, purplish, erect flowers. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot. vol. ix. pl. 648. Eng. Fl. vol. i. p. 101.* 128.

2. *A. aquatica. Water Hair-grass.* Panicle spreading; flowers awnless, even, obtuse, longer than the calyx; leaves flat; stipule oblong.—Root creeping: stems floating, branched, smooth, rising about a foot above the water: panicle erect, with spreading branches. Perennial: flowers in June: grows in ditches, pools, and the edges of rivers: not uncommon. *Eng. Bot. vol. xxii. pl. 1557. Eng. Fl. vol. i. p. 102.* 129.

#### \*\* Corolla awned.

3. *A. caespitosa. Turfy Hair-grass.* Panicle spreading; flowers about the length of the calyx, abrupt, hairy at the base; awn short, from the lower part of the outer husk; leaves flat.—Straws from two to four feet high, erect, smooth, growing in large tufts: panicle large, much branched, with small silvery purplish flowers. Perennial: flowers in June and July: grows in moist shady places, and in alpine ravines: common. *Eng. Bot. vol. xxi. pl. 1453. Eng. Fl. vol. i. p. 102.* 130.

4. *A. alpina*. *Smooth Alpine Hair-grass*. Panicle rather close, with smooth branches; flowers acute, the length of the calyx; awn short, from near the top of the outer husk; leaves involute.—Straws about a foot high: leaves rough on the upper side: panicle with shining brownish flowers, on nearly erect branches. Perennial: flowers in July: grows on the higher mountains of Scotland and Wales: common. *Eng. Bot.* vol. xxx. pl. 2102: *A. levigata*. *Eng. Fl.* vol. i. p. 103. 131.

5. *A. flexuosa*. Panicle spreading, with waved branches; flowers acute, as long as the calyx; awn from the middle of the outward husk, twisted; leaves bristle-shaped.—Straw upwards of a foot high, erect, smooth: leaves short: panicle erect, with waved angular branches and flower-stalks, and shining brown flowers. Perennial: flowers in July: grows in heathy places and on dry banks: common. *Eng. Bot.* vol. xxii. pl. 1519. *Eng. Fl.* vol. i. p. 104. 132.

6. *A. canescens*. *Grey Hair-grass*. Panicle rather close; flowers shorter than the calyx; awn short, club-shaped; leaves bristle-shaped.—Straws about six inches high: leaves numerous, chiefly radical, forming dense tufts: panicle with numerous small flowers variegated with purple, green, and white. Perennial: flowers in July: grows on the sandy coasts of Norfolk and Suffolk; Jersey. *Eng. Bot.* vol. xvii. pl. 1190. *Eng. Fl.* vol. i. p. 105. 133.

7. *A. caryophyllæa*. *Silver Hair-grass*. Panicle spreading; flowers sessile, not longer than the calyx; awn from below the middle of the husk, twice its length; leaves bristle-shaped.—Generally about six inches high: panicle three-forked, with silvery flowers. Annual: flowers in June and July: grows on dry pastures and gravel pits: common. *Eng. Bot.* vol. xii. pl. 812. *Eng. Fl.* vol. i. p. 107. 134.

8. *A. præcox*. *Early Hair-grass*. Panicle close, erect; flowers sessile, as long as the calyx; awn from the base of the husk, nearly twice its length; leaves bristle-shaped.—Straws from two to five inches high; panicle with angular rough branches, and pale, purplish flowers. This and the preceding species wither very soon, when the season is dry. Perennial: flowers in May and June: grows in dry sandy pastures: common. *Eng. Bot.* vol. xviii. pl. 1296. *Eng. Fl.* vol. i. p. 106. 135.

#### 24. ARUNDO. REED.

Calyx of two unequal, lance-shaped, pointed, keeled, awnless chaff-scales. Corolla of two unequal husks; the outer larger, lance-shaped, keeled, compressed, pointed; the inner cleft at the point, inflected at the edges; each husk with numerous soft hairs at the base. Nectary of two minute scales. Filaments thread-like; anthers cleft at both ends. Germen oblong. Style short; stigmas feathery. Seed oblong, loose, but enveloped in the husks.—Name *Arundo*, a reed. 40.

1. *A. Phragmites*. *Common Reed*. Flowers about five in each calyx, awnless; panicle loose.—Root creeping: stems about six feet high, stout, smooth: leaves lance-shaped, rough on the edges, many-ribbed: panicle very large, with the branches in half whorls: flowers brownish purple, with large tufts of silky hairs. Perennial: flowers in July: grows in ditches, marshes, lakes, and rivers: not very common, but often growing in large masses; the favourite haunts of the Coot, the Water-hen, and the Reed Bunting.

It forms excellent thatch. *Eng. Bot.* vol. vi. pl. 401. *Eng. Fl.* vol. i. p. 169. 136.

2. *A. Epigejos.* *Wood Reed.* Calyx one-flowered, longer than the corolla; panicle erect, close, with crowded, unilateral flowers; awn of the outer husk dorsal, as long as the hairs and calyx; leaves lance-shaped.—Straw about three feet high: panicle smaller, closer, and more erect than in the last: flowers purple, with long silky hairs. Perennial: flowers in July: grows in shady moist places: rare. *Eng. Bot.* vol. vi. pl. 403. *Eng. Fl.* vol. i. p. 170: 137.

3. *A. Calamagrostis.* *Small Reed.* Calyx one-flowered, much longer than the corolla; panicle erect, loose; flowers spreading in all directions; awn terminal, short; hairs longer than the husks; leaves linear.—Straws about three feet high, smooth, slender; panicle much branched, with purple flowers. Perennial: flowers in July: grows in marshes, and moist woods and hedges. *Eng. Bot.* vol. xxx. pl. 2159. *Eng. Fl.* vol. i. p. 170. 138.

4. *A. Lappónica.* *Lapland Small Reed.* Calyx one-flowered, broadly lance-shaped, as long as the corolla; panicle erect, close; corolla equal in height with the calyx and the awn, which latter is inserted near the base.—Straw about three feet high: leaves narrow, rigid; branches of the panicle spreading only during flowering: flowers at first tinged with purplish blue, afterwards becoming yellowish brown. Perennial: flowers in June and July: grows in moist places in Ireland: very rare. Discovered by Mr. D. Moore at Lough Neagh, Antrim. *Calamagrostis Laponnica.* *Brit. Fl.* 4th ed. p. 34. 139.

5. *A. stricta.* *Smallest Close Reed.* Calyx one-flowered, egg-shaped, acute, scarcely longer than the husks; panicle erect, close; flowers spreading in all directions, with a dorsal awn; hairs shorter than the husks.—Straw about two feet high, very slender, smooth: flowers brown, with the hair short. Perennial: flowers in June: found by Mr. G. Don in the White Mire near Forfar, but has not been found since. *Eng. Bot.* vol. xxx. pl. 2150. *Eng. Fl.* vol. i. p. 171. 140.

6. *A. arenaria.* *Sea Reed. Mat-grass. Sea Bent.* Calyx one-flowered, a little longer than the corolla; panicle close, leaves involute, pungent.—Root creeping, often twenty feet long: straw stiff, greenish-yellow: leaves very long, mostly radical: panicle close, linear, attenuated at each end: chaff-scales unequal, membranous, rough on the keel. Very few of the seeds are perfected. This plant is common on the coasts, wherever there is loose sand, which it serves to bind down by its long tough roots. It is manufactured into door mats and floor brushes. In the Hebrides it is made into ropes for various uses; mats for pack-saddles, bags and vessels for holding and preparing meal and grain, and into hats. It has also been planted in the outer Hebrides, for curing sand-drift. Perennial: flowers in July. *Eng. Bot.* vol. viii. pl. 520. *Eng. Fl.* vol. i. p. 172. 141.

## 25. HO'LCUS. SOFT-GRASS.

Calyx two-flowered, of two unequal, keeled, awnless chaff-scales, one of the flowers perfect, the other with an abortive germen. Corolla of two equal husks; the larger egg-shaped, keeled, awned on the back; the smaller much narrower, awn-

less. Nectary a cleft scale. Filaments three in both flowers; anthers notched at both ends. Styles short, spreading; stigma large, feathery. Seed coated with the hardened permanent husks.—Name *holcos* of the Greeks. 41.

1. *H. aveniceus*. *Oat-like Soft-grass*. The perfect flower superior, with a short awn, the imperfect flower with a long geniculate awn; root knotted.—Height from two to four feet, or more: the lower part of the straw has a number of very short joints, which are enlarged above, forming yellowish juicy knots, resembling roots: leaves narrow lance-shaped, thinly hairy above: panicle long, with half-whorled branches: imperfect flower with a long awn, bent near the middle, inserted above the base; perfect flower with a short awn, inserted below the tip. Perennial: flowers in July and August; grows by roads and old walls, and in corn-fields, where it is difficult to be extirpated. In many districts it is so abundant, that the farmers collect the roots into heaps and burn them. *Eng. Bot.* vol. xii. pl. 813. *Eng. Fl.* vol. i. p. 109. 142.

2. *H. mollis*. *Creeping Soft-grass*. Perfect flower inferior, awnless; imperfect flower with a bent awn exceeding the calyx; root creeping.—Straw about three feet high: generally smooth, with the knots downy: leaves narrow lance-shaped, acute, smoothish, or slightly downy, rough at the margin: chaff-scales nearly equal, smoothish, hairy on the keel: flowers shining, the upper hairy at the base. Perennial: flowers in July: grows in moist pastures and by old walls: common. *Eng. Bot.* vol. xvii. pl. 1170. *Eng. Fl.* vol. i. p. 108. 143.

3. *H. lanatus*. *Meadow Soft-grass*. Perfect flower inferior, awnless; imperfect flower with a curved awn included in the calyx; root fibrous.—Straw about two feet high: the whole plant, particularly the leaves, covered with a very soft short down: chaff-scales nearly equal, downy: flowers shining, the upper with a tuft of hairs at the base. The principal difference between this and the last is in the length of the awn. Perennial: flowers in July: grows in meadows, pastures, and woods, and by roads: abundant. *Eng. Bot.* vol. xvii. pl. 1169. *Eng. Fl.* vol. i. p. 108. 144.

## 26. MELICA. MELIC.

Calyx of two unequal, spreading, awnless chaff-scales, containing one or two perfect flowers, with the rudiments of one or two other flowers. Corolla of two unequal, oblong, awnless husks; the outer larger, concave, ribbed; the inner flat, with two marginal ribs. Nectary cup-shaped, at the base of the germen. Filaments hair-like; anthers protruded, pendulous. Germen roundish. Styles distant, long; stigmas short. Seed egg-shaped, loose, covered with the hardened husks.—Name from *mel*, honey. 42.

1. *M. uniflora*. *Wood Melic-grass*. Panicle branched, slightly drooping towards one side; flowers erect; spikelet with only one perfect flower.—Root creeping: straw about eighteen inches high, smooth, slender: leaves with the ribs and edges rough: panicle of a few hair-like branches: flowers variegated with white, green, and brown. Perennial: flowers in May and June: grows in woods: not uncommon. *Eng. Bot.* vol. xv. pl. 1058. *Eng. Fl.* vol. i. p. 112. 145.

2. *M. nitans*. *Mountain Melic-grass*. Panicle close, nearly simple,



drooping; flowers pendulous; spikelet with two perfect flowers. —Root creeping: straw about a foot high: leaves nearly smooth: panicle generally with undivided branches. Perennial: flowers in June and July: grows in woods, chiefly in Scotland and the North of England: frequent. *Eng. Bot.* vol. xv. pl. 1059. *Eng. Fl.* vol. i. p. 113. 146.

3. *M. cærulea*. *Purple Melic-grass*. Panicle close, erect; spikelets cylindrical, erect. —Root large, of numerous long, thick fibres: straw about two feet high, enlarged at the base: leaves covered with scattered hairs above: panicle oblong, with numerous waved branches, and purplish brown flowers. This grass is made into ropes in the Hebrides. The butter of cows which feed upon it is very rich, and highly coloured. Perennial: flowers in June and July: grows abundantly on heaths, especially such as are moist. *Eng. Bot.* vol. xi. pl. 750. *Eng. Fl.* vol. i. p. 113. 147.

## 27. SESLERIA. MOOR-GRASS.

Calyx of two nearly equal, pointed, keeled, slightly awned chaff-scales, containing two or three perfect flowers. Corolla of two lance-shaped, acute husks, the outer toothed, the inner cleft. Filaments hair-like, a little longer than the husks; anthers protruded, linear, notched at both ends. Germen small, egg-shaped. Styles united; stigma long, downy. Seed loose, covered with the membranous husks.—Named after *Leonard Sesler*, an Italian botanist. 43.

1. *S. cærulea*. *Blue Moor-grass*. Spike egg-shaped, imbricated; bractæ alternate; outer husk with three teeth.—Root of long fibres: straw about eight inches high, smooth: leaves rough on the edges and keel, with short sheaths: spike erect, bluish-grey, shining: chaff-scales and outer husk fringed, the latter with three teeth at the end. Perennial: flowers in April and May: grows on mountains in Scotland and the North of England. *Eng. Bot.* vol. xxiii. pl. 1613. *Eng. Fl.* vol. i. p. 114. 148.

## 28. HIERO'CHLOE. HOLY-GRASS.

Calyx of two nearly equal, egg-shaped, acute, awnless, membranous chaff-scales, containing three flowers, of which the upper is perfect, the others stameniferous. \*Corolla of two unequal membranous husks; the outer larger, egg-shaped; the inner much narrower, extremely thin, notched, inflected at the edges. Nectary a membranous scale. Filaments hair-like, two in the perfect flower, three in the barren ones; anthers linear, protruded, pendulous. Germen egg-shaped. Styles short, distinct; stigmas linear, feathery. Seed egg-shaped, small, loose, invested by the unaltered husks. Named from *hieros*, sacred, and *chloe*, grass. 44.

1. *H. borealis*. *Northern Holy-grass*. Panicle somewhat unilateral, with smooth flower-stalks; perfect flower awnless, the others slightly awned; leaves flat.—Root creeping: straws from twelve to eighteen inches high, erect, smooth: panicle erect, with waved branches: outer husks fringed. Perennial: flowers in May and June: found by Mr. G. Don in the valley of Kella, in Angus-shire; Moffat Hills, Dumfriesshire. *Eng. Bot. Suppl.* pl. 2641. *Eng. Fl.* vol. i. p. 111. 149.

## 29. GLYCE'RIA. SWEET-GRASS.

Calyx of two unequal, awnless chaff-scales, containing a linear spikelet of numerous, alternate, two-rowed, awnless flowers, unconnected by a web at the base. Corolla of two unequal husks; the outer cylindrical, ribbed, entire, more or less abrupt, with inflected edges; the inner narrower, obtuse or notched, flat, membranous, with two marginal ribs. Nectary a notched scale. Filaments hair-like, longer than the corolla; anthers pendulous, linear, cleft at both ends. Germen egg-shaped. Styles distinct; stigmas spreading, feathery, repeatedly branched. Seed oblong, loose, covered with the unaltered husks.—Name from *glucus*, sweet. 45.

1. *G. aquatica*. *Reedy Sweet-grass*. Panicle erect, repeatedly branched, spreading; spikelets with numerous obtuse, seven-ribbed flowers.—Straw six feet high, stout: leaves broad, flat, rough on the keel and edges: panicle large, with half-whorled branches: spikelets of from five to ten flowers. This is one of the most beautiful, as well as one of the largest of our grasses. It is eaten by cattle, and deserves to be cultivated, as it would yield an abundant crop in moist land. Perennial: flowers in July: grows by the margin of rivers: not common. *Eng. Bot.* vol. xix. pl. 1315. *Eng. Fl.* vol. i. p. 116. 150.

2. *G. fluitans*. *Floating Sweet-grass*. Panicle slender, very long, slightly branched; spikelets with numerous obtuse, seven-ribbed, cylindrical flowers.—Root creeping, long: straws partly floating, as are many of the linear, flat, obtuse leaves: panicle nearly erect, narrow, with roughish branches; spikelets erect, long, linear, of from eight to twelve flowers: outer husk cylindrical, obtuse. Perennial: flowers in June and July: grows in ditches and stagnant waters: common. *Eng. Bot.* vol. xxii. pl. 1520. *Eng. Fl.* vol. i. p. 117. 151.

3. *G. maritima*. *Creeping Sea-sweet-grass*. Panicle branched, rather close; spikelets with about five, slightly five-ribbed, somewhat pointed flowers; root creeping.—Stems about a foot high: leaves involute, pointed: flowers cylindrical, hairy at the base. Perennial: flowers in July and August: grows on the sea-coast: frequent. *Eng. Bot.* vol. xvi. pl. 1140. *Eng. Fl.* vol. i. p. 116. 152.

4. *G. distans*. *Reflexed Sweet-grass*. Panicle branched, spreading: spikelets with about five obscurely five-ribbed, blunt, shining flowers; root fibrous.—Straws about a foot high, decumbent at the base: the whole plant slightly glaucous: panicle erect, with half-whorled, rough branches: flowers cylindrical. Perennial: flowers in July and August: grows near the coast in sandy pastures: rare. *Eng. Bot.* vol. xiv. pl. 986. *Eng. Fl.* vol. i. p. 118. 153.

5. *G. procumbens*. Panicle lance-shaped, two-rowed, unilateral, close, with rough stalks; spikelets of five bluntish, five-ribbed flowers.—Root fibrous: the whole plant glaucous: straws about eight inches long, procumbent: outer husk cylindrical, its central rib more prominent towards the summit: inner husk bristly at the lateral ribs. Perennial: flowers in July and August: grows in pastures near the sea: common. *Eng. Bot.* vol. viii. pl. 532. *Eng. Fl.* vol. i. p. 119. 154.

6. *G. rigida*. *Hard Sweet-grass*. Panicle lance-shaped, close, two-

rowed, unilateral, with smooth stalk; spikelets of about seven acute, scarcely-ribbed flowers.—Root fibrous: stems from three to eight inches high, extremely stiff and firm: flowers cylindrical, slightly keeled: the whole plant generally brownish. Perennial: flowers in June: grows in dry gravelly places, and on walls: not uncommon. *Eng. Bot.* vol. xx. pl. 1371. *Eng. Fl.* vol. i. p. 120. 155.

### 35. POA. MEADOW-GRASS.

Calyx of two unequal, egg-shaped, acute, keeled, awnless chaff-scales, containing an egg-shaped spikelet of two-rowed, imbricated, awnless, perfect flowers, frequently connected at the base by a web of white cottony filaments. Corolla of two unequal husks; the outer egg-shaped, acute, keeled, compressed, entire, membranous at the edges; the inner narrower, with two nearly marginal ribs, inflected membranous edges, and a cleft summit. Nectary a deeply-cleft scale. Filaments hair-like, longer than the corolla; anthers pendulous, oblong, cleft at both ends. Germen egg-shaped. Styles very short; stigmas feathery, spreading. Seed oblong, acute, loose, covered with the unaltered husks.—Name, *poa*, grass, from *pao*, to feed. 46.

1. *P. compressa*. Flat-stalked Meadow-grass. Panicle somewhat unilateral, spreading; straw compressed; spikelets oblong; flowers connected by a web; root creeping.—Straw decumbent at the base, about a foot high: panicle with rough angular branches: spikelets from three to eight flowers: outer husk five-ribbed, rough on the keel. Perennial: flowers in June, July, and August: grows in waste ground, and on walls: not uncommon. *Eng. Bot.* vol. vi. pl. 365. *Eng. Fl.* vol. i. p. 121. 156.

2. *P. alpina*. Alpine Meadow-grass. Panicle spreading; spikelets egg-shaped, four or five-flowered; flowers somewhat incurved, hairy at the base.—Root fibrous: straws from four to eight inches high, erect: leaves linear, flat, bluntish, with a small point, rough at the edges: spikelets broad: chaff-scales keeled, three-ribbed: inner husk fringed at the ribs. Perennial: flowers in July and August: grows abundantly on the higher mountains of Scotland and Wales: common. *Eng. Bot.* vol. xiv. pl. 1003. *Eng. Fl.* vol. i. p. 122. 157.

3. *P. liza*. Waved Meadow-grass. Panicle drooping, loosely spreading, waved; spikelets egg-shaped, three-flowered; flowers connected by a web.—Root slightly creeping: the whole plant somewhat glaucous: leaves linear, roughish above: panicle with waved branches: spikelets broad: chaff-scales keeled. Perennial: flowers in July: found by Mr. J. T. Mackay, on Bennevis. *Eng. Bot.* pl. 1123. *Eng. Fl.* vol. i. p. 123. 158.

4. *P. bulbosa*. Bulbous Meadow-grass. Panicle close, slightly waved; spikelets egg-shaped, four-flowered; flowers smoothish, connected by a web; leaves finely serrated; straw bulbous at the base.—Straws four or five inches high: panicle oblong: spikelets egg-shaped: chaff-scales rough on the keel; outer husk hairy on the keel, with a continuation of the web, the inner fringed. Perennial: flowers in April and May: grows on the sandy sea-shore in some parts of England: rare. *Eng. Bot.* vol. xv. pl. 1071. *Eng. Fl.* vol. i. p. 123. 159.

5. *P. trivialis*. *Roughish Meadow-grass*. Panicle spreading: spikelets oblong, of about three acute, five-ribbed flowers, connected by a web; straw and sheaths roughish; root fibrous.—From one to two feet high: leaves linear, acute: panicle large, with half-whorled, rough branches, and green flowers. A valuable grass for pasturage and hay. Perennial: flowers in June and July: grows in meadows and pastures: very common. *Eng. Bot.* vol. xv. pl. 1072. *Eng. Fl.* vol. i. p. 124. 160.

6. *P. pratensis*. *Smooth Meadow-grass*. Panicle spreading; spikelets oblong, of about four acute, five-ribbed flowers, connected by a web; straw and sheaths smooth; root creeping.—About a foot high: leaves linear, acute: panicle with half-whorled, smooth branches, and pale-green flowers. One of the most valuable pasture plants. Perennial: flowers in June and July: grows in meadows and pastures: abundant. *Eng. Bot.* vol. xv. pl. 1073. *Eng. Fl.* vol. i. p. 126. 161.

7. *P. annua*. *Annual Meadow-grass*. Panicle somewhat unilateral, with spreading or deflected branches: spikelets egg-shaped, of about five somewhat distant, five-ribbed flowers, destitute of a web; straw ascending, a little compressed; root fibrous.—Straws about six inches long, decumbent and rooting at the base: panicle pale-green. The whole plant tender and rather succulent. Annual: flowers the whole year round: grows by roads, and wherever there is loose earth: abundant. *Eng. Bot.* vol. xvi. pl. 1141. *Eng. Fl.* vol. i. p. 126. 162.

8. *P. nemoralis*. *Wood Meadow-grass*. Panicle spreading, with hair-like branches; spikelets lance-shaped, of about three five-ribbed, acute flowers, silky on the keel and lateral ribs, and hairy at the base, without a web.—The whole plant slender and delicate: straws erect, about two feet high: leaves linear, flat, tapering to a fine point, roughish: panicle erect. Perennial: flowers in June and July: grows in woods. *Eng. Bot.* vol. xviii. pl. 1265. *Eng. Fl.* vol. i. p. 130.—A small glaucous variety, found abundantly on the Scotch and Welsh mountains, has been named *P. glauca*, *Glaucous Meadow-grass*. *Eng. Bot.* vol. xxiv. pl. 1720. *Eng. Fl.* vol. i. p. 128. 163.

### 31. TRIODIA. HEATH-GRASS.

Calyx of two nearly equal, egg-shaped, keeled, acute, awnless chaff-scales, containing an egg-shaped, imbricated spikelet, of several perfect flowers, which are hairy at the base, but destitute of web. Corolla of two unequal, egg-shaped, stiff husks; the outer obscurely ribbed, rounded on the back, flat and expanded on the edges, deeply cleft at the summit, with an intermediate short awn or tooth; the inner smaller, fringed, cleft at the point. Nectary of two scales. Filaments hair-like; anthers protruded, pendulous. Germen oval, flat. Styles short, distinct; stigma cylindrical, feathery. Seed loose, depressed, convex on the outer, concave on the inner side.—Named from *treis*, three, and *odous*, a tooth. 47.

1. *T. decumbens*. *Decumbent Heath-grass*. Panicle erect, close, with nearly simple branches; spikelets four-flowered; chaff-scales smooth.—The whole plant stiff, decumbent; straw from four inches to a foot long, smooth: panicle of a few large, purple spike-

lets: corolla with two dense tufts of shining bristles at the base. Perennial: flowers in July: grows in dry mountainous pastures, as well as on the sea-coasts: common. *Eng. Bot.* vol. xii. pl. 792. *Eng. Fl.* vol. i. p. 131. 164.

### 32. BRIZA. QUAKING-GRASS.

Calyx of two nearly equal, inversely egg-shaped, slightly keeled, awnless chaff-scales, containing a broadly egg-shaped, obtuse, compressed spikelet of many two-rowed, imbricated, perfect flowers. Corolla of two unequal, obtuse, awnless husks, the outer nearly orbicular, concave, contracted at the edges, the inner much smaller, inversely egg-shaped, inflexed at the edges. Nectary a cleft scale. Filaments hair-like, longer than the corolla. Anthers oblong, pendulous. Germen egg-shaped. Styles very short. Stigmas feathery, long. Seed nearly orbicular, flat, closely invested by the husks.—Named from *britho*, to vibrate. 48.

1. *B. média*. *Common Quaking-grass*. Spikelets broadly egg-shaped, seven-flowered; calyx shorter than the flowers.—Straw about a foot high: leaves deep green: panicle with very slender branches, and large purplish, tremulous spikelets: inner husk finely fringed, entire at the end. A very beautiful grass, but of little value to pasturage. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. v. pl. 340. *Eng. Fl.* vol. i. p. 133. 165.

2. *B. minor*. *Little Quaking-grass*. Spikelets triangular, seven-flowered; calyx longer than the flower.—Straw about eight inches high: leaves pale-green: panicle with hair-like branches: inner husk cleft at the end, and not fringed. Perennial: flowers in June and July: grows in cultivated fields in the south of England, and Guernsey and Jersey: very rare. *Eng. Bot.* vol. xix. pl. 1316. *Eng. Fl.* vol. i. p. 133. 166.

### 33. DACTYLIS. COCK'S-FOOT-GRASS.

Calyx of two unequal, narrow lance-shaped, keeled, compressed, long-pointed chaff-scales, containing a spikelet of several flowers. Corolla of two unequal lance-shaped, keeled, compressed husks; the outer more or less awned, flat and membranous at the edges; the inner narrower, two-ribbed, folded acutely, cleft at the end. Nectary of two lance-shaped, pointed scales. Filaments hair-like, longer than the corolla; anthers cleft at both ends. Germen roundish. Styles very short, distinct; stigmas feathery, spreading. Seed oblong, loose, covered by the unaltered husks.—Named from *Dactylus*, a finger. 49.

1. *D. glomerata*. *Cock's-foot-grass*. Panicle distinctly branched, unilateral; flowers in dense tufts; corolla somewhat awned, five-ribbed, taper-pointed.—Straw erect, about two feet high: leaves linear, flat, dark-green, striated, harsh. A coarse grass, little relished by cattle, but said to improve greatly by culture. Perennial: flowers in June and July: grows by hedges, walls, and roads: common. *Eng. Bot.* vol. v. pl. 335. *Eng. Fl.* vol. i. p. 134. 167.

## 34. SPARTINA. CORD-GRASS.

Calyx one-flowered, of two unequal, lance-shaped, keeled, compressed chaff-scales; the inner cleft at the end. Corolla of two lance-shaped, bluntish, compressed, awnless husks, the inner rather longer. Nectaries none. Filaments hair-like, not so long as the corolla; anthers erect, linear, cleft at the base. Germen elliptical. Styles united for a great part of their length, separate at the top; stigmas feathery, slender. Seed oblong, compressed, loose, covered by the unaltered husk.—Named from its resemblance to *Lygeum Spartum*. 50.

1. *S. stricta*. *Twin-spiked Cord-grass*. Spikes two or three; flowers very hairy; leaves shorter than the spikes, tapering at the base, and jointed upon the sheath.—Root creeping: the whole plant remarkably stiff: straw a foot or more in height: spikes erect, straight, close together. Perennial: flowers in August: grows in muddy salt marshes on the east and south-east coasts of England: rare. *Eng. Bot.* vol. vi. pl. 389. *Eng. Fl.* vol. i. p. 136. 168.

2. *S. alternifolia*. *Many-spiked Cord-grass*. Spikes numerous, flowers glabrous; leaves equal to or longer than the spikes, dilated at the base and continuous with the sheath.—Much taller than the preceding. Perennial: flowers in August: grows in muddy salt marshes: extremely rare. Discovered in 1836 by Dr. Brom: field, at Itchen Ferry, Southampton. *Comp. to Bot. Mag.* vol. ii. p. 254. *Brit. Fl.* 4th ed. p. 53. 169.

## 35. CYNOSURUS. DOG'S-TAIL-GRASS.

Spikelets in pairs: the outer consisting of numerous two-rowed, lance-shaped, pointed chaff-scales, without corolla or other part of fructification, and resembling a pectinated bractea; the inner of several flowers. Calyx of two equal, lance-shaped, one-ribbed, concave, keeled, taper-pointed, awned chaff-scales, containing two or three perfect flowers, occasionally with rudiments of more. Corolla of two unequal, lance-shaped husks; the outer concave, keeled, with a straight awn at the summit; the inner two-ribbed, inflected at the edges, cleft at the point, awnless. Nectary of two acute scales. Filaments hair-like, shorter than the corolla; anthers linear, cleft at both ends. Germen elliptical. Style very short, distinct; stigmas long, feathery. Seed loose, oblong, invested by the unaltered husks.—Named from *kyon*, a dog, and *oura*, a tail. 51.

1. *C. cristatus*. *Crested Dog's-tail-grass*. Spike simple, linear; neutral spikelet awnless.—Straws about a foot high, stiff, smooth: spike erect, linear, with a waved rough stalk. This grass is excellently adapted for making straw-plait, and has been employed for that purpose. Cattle hardly ever eat it. Perennial: flowers in July: grows in meadows and pastures, abundantly. *Eng. Bot.* vol. v. pl. 316. *Eng. Fl.* vol. i. p. 137. 170.

2. *C. echinatus*. *Rough Dog's-tail-grass*. Spike compound, egg-shaped; neutral spikelet awned.—Straws from ten to twenty inches high: spike dense, bristly with the long rough awns of the perfect flowers. Perennial: flowers in July: grows on sandy ground, in the south of England, and Jersey: rare. *Eng. Bot.* vol. xix. pl. 1333. *Eng. Fl.* vol. i. p. 138. 171.

## 36. FESTUCA. FESCUE.

Calyx of two very unequal, lance-shaped, pointed chaff-scales, containing an oblong, compressed, imbricated spikelet, of many two-rowed, more or less awned, perfect flowers. Corolla of two unequal husks; the outer commonly nearly cylindrical, entire, pointed or awned, keeled, more or less ribbed, a little inflected at the edges; the inner more narrow, elliptical, two-ribbed, cleft or abrupt, with membranous margins, folded in at the rib. Nectary of one deeply divided, or of two separate acute scales. Filaments hair-like, shorter than the husks; anther linear, pendulous, notched at both ends. Germen round. Styles short, distant. Stigmas feathery; seed oblong, acute, loose, enveloped in the unaltered husks.—Named from *fest*, food.

52.

1. *F. ovina*. *Sheep's Fescue*. Panicle unilateral, rather close; spikelets of four or five flowers with short awns; straw square; leaves involute, bristle-shaped.—Leaves short, tufted; straws about eight inches high, the whole plant glaucous, frequently tinged with red. This grass forms excellent pasturage for sheep. Perennial: flowers in June and July: grows in dry pastures abundantly. *Eng. Bot.* vol. ix. pl. 585. *Eng. Fl.* vol. i. p. 139.—A variety which is viviparous grows abundantly on the higher mountains. *F. vivipara*. *Eng. Bot.* vol. xiv. pl. 1355. *Eng. Fl.* vol. i. p. 149.

172.

2. *F. duriuscula*. *Hard Fescue*. Panicle unilateral, spreading; spikelets oblong, of about six flowers with short awns; stem-leaves nearly flat; root-leaves involute, bristle-shaped.—Straws from one to two feet high: leaves roughish on the keel and edges. Perennial: flowers in June and July: grows in pastures and waste ground: common. *Eng. Bot.* vol. vii. pl. 470. *Eng. Fl.* vol. i. p. 141.

173.

3. *F. rubra*. *Creeping Fescue*. Panicle unilateral, spreading; spikelets oblong, of about six flowers, with short awns; leaves downy above, more or less involute; root extensively creeping.—The long, creeping root furnishes the principal distinctive character of this species; which, however, is probably a mere variety of the former. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xxix. pl. 2056. *Eng. Fl.* vol. i. p. 142.

174.

4. *F. bromoides*. *Barren Fescue*. Panicle unilateral, nearly erect, simple; spikelets oblong, smooth; flowers shorter than their awns; leaves tapering, shorter than their sheath.—Straws from four to ten inches high: panicle of a few long-stalked spikelets: outer chaff scale extremely narrow, acute. Annual: flowers in June: grows on walls and sandy ground: common. *Eng. Bot.* vol. xx. pl. 1411. *Eng. Fl.* vol. i. p. 143.

175.

5. *F. Myiurus*. *Wall Fescue*. Panicle drooping, elongated, rather close; flowers tapering, shorter than their awns, rough at the top; leaves awl-shaped.—About sixteen inches high, with a panicle five or six inches long. Annual: flowers in June and July: grows on walls and dry sandy ground: frequent in England; rare in Scotland. *Eng. Bot.* vol. xx. pl. 1412. *Eng. Fl.* vol. i. p. 143.

176.

6. *F. uniglumis*. *Single-husked Fescue*. Panicle erect, nearly simple; flowers tapering, compressed, awned; one of the chaff-

scales very minute.—Straws from six to fourteen inches high, erect, leaves somewhat involute, smooth on the back, furrowed and hairy above; panicle rather close, with compressed, rough-edged stalks. Annual: flowers in June: grows on the sandy shores of the south of England: rare. *Eng. Bot.* vol. xx. pl. 1430. *Eng. Fl.* vol. i. p. 144. 177.

7. *F. gigantea*. *Great Fescue*. Panicle branched, drooping towards one side, spikelet lance-shaped, compressed; flowers shorter than their awn; leaves narrow, lance-shaped, ribbed.—Stems three or four feet high, erect, smooth, striated: leaves with rough edges and ribs: panicle large, with spikelets of from three to six flowers. Perennial: flowers in July and August: grows in woods and hedges: not uncommon. *Eng. Bot.* vol. xxvi. pl. 1820. *Eng. Fl.* vol. i. p. 144. *Bromus giganteus* of some botanists. 178.

8. *F. calamagrostis*. *Tall Fescue*. Panicle repeatedly compound, spreading, erect; spikelets of from two to five cylindrical, keeled, pointed flowers; inner husk folded in the middle.—Straws two or three feet high, round, smooth: leaves lance-shaped, tapering, striated, ribbed, rough at the edges: panicle with slender, angular branches: spikelet small, erect: outer chaff-scale linear, inner awl-shaped. Perennial: flowers in July: grows in mountainous woods: not uncommon. *Eng. Bot.* vol. xiv. pl. 1005. *Eng. Fl.* vol. i. p. 116. 179.

9. *F. loliacea*. *Spiked Fescue*. Spike two-rowed, drooping; spikelet nearly sessile, narrow-oblong; flowers cylindrical, awnless, pointed, with five or six ribs at the top.—Straws two feet high, round, smooth: leaves linear, flat, smooth: spike with a wavy, angular common stalk: spikelets with ten or twelve cylindrical flowers. Perennial: flowers in June and July: grows in rich moist pastures: not uncommon. *Eng. Bot.* vol. xxvi. pl. 181. *Eng. Fl.* vol. i. p. 147. 180.

10. *F. pratensis*. *Meadow Fescue*. Panicle nearly erect, branched, spreading, inclined to one side; spikelets lance-shaped, compressed with eight or nine cylindrical flowers; root fibrous.—Straws about two feet high, round, smooth: leaves linear, pointed, striated, rough at the edges: panicle with compressed, rough stalks: nectary four-cleft. Perennial: flowers in June and July: grows in moist pastures and by road-sides: common. *Eng. Bot.* vol. xxiii. pl. 1592. *Eng. Fl.* vol. i. p. 148. 181.

11. *F. elatior*. *Tall Fescue*. Panicle somewhat drooping, much branched, spreading in all directions; spikelets between egg-shaped and lance-shaped, with numerous cylindrical, somewhat awned flowers; root creeping.—Straws about four feet high, striated, smooth: leaves narrow lance-shaped, smooth, rough at the edges: nectary four-cleft. Perennial: flowers in June and July: grows in moist meadows: not common. *Eng. Bot.* vol. xxiii. pl. 1593. *Eng. Fl.* vol. i. p. 148. 182.

12. *F. sylvatica*. *Slender Wood Fescue*. Spike simple, drooping; spikelets nearly cylindrical, inclining one way; awns longer than the husks; leaves hairy; root fibrous.—Straws two feet high, round, smoothish, very slender: leaves more or less hairy: nectary of two acute scales. Perennial: flowers in July: grows in thickets and hedges. *Eng. Bot.* vol. xi. pl. 729. *Eng. Fl.* vol. i. p. 149. 183.

13. *F. pinnata*. *Spiked Heath Fescue*. Spike simple, erect, two-rowed; spikelets nearly cylindrical; awns shorter than the husks;



leaves nearly smooth; root somewhat creeping.—Straws about two feet high. Perennial: flowers in July: grows in open fields and heaths in England: rare. *Eng. Bot.* vol. xi, pl. 730, *Bromus pinnatus*. *Eng. Fl.* vol. i. p. 150. 184.

### 37. BRO'MUS. BROME-GRASS.

Calyx of two unequal, egg-shaped or lance-shaped, acute, compressed, awnless chaff-scales, containing an egg-shaped or oblong, compressed, imbricated spikelet, of numerous, two-rowed, awned, perfect flowers. Corolla of two unequal husks, the outer elliptical, ribbed, longer than the calyx, cleft at the top, awned on the back just below the summit, with a tapering awn, generally as long as the husk; inner husk nearly as long as the outer, but much narrower, two-ribbed, with membranous inflexed margins, and a fringe on the ribs. Nectary a deeply divided scale, or two distinct undivided ones. Filaments hair-like, shorter than the corolla; anthers short, pendulous, notched at both ends. Germen egg-shaped. Styles distant, lateral; stigmas densely feathered. Seed oblong, depressed, downy at the summit, united to the inner husk.—Name from *broma*, food. 53.

1. *B. secalinus*. *Smooth Rye Brome-grass*. Panicle spreading, little branched; spikelets egg-shaped; of about ten, distinct, sub-cylindrical smooth flowers; awns waved, shorter than the husks; leaves slightly hairy.—Straws from two to three feet high: lower branches of the panicle whorled and slightly subdivided, upper simple. Annual: flowers in July and August: grows in corn fields: not common. *Eng. Bot.* vol. xvii. pl. 1171. *Eng. Fl.* vol. i. p. 152. 185.

2. *B. velutinus*. *Downy Rye Brome-grass*. Panicle spreading, little branched; spikelets oblong, of from ten to fifteen crowded, elliptical, downy flowers; awns as long as the husks; leaves slightly hairy.—Straws about two feet high: panicle with almost entirely simple branches. Annual: flowers in July: grows in corn-fields: rare. Found near Edinburgh by Sir J. E. Smith. *Eng. Bot.* vol. xxvii. pl. 1884. *Eng. Fl.* vol. i. p. 152. 186.

3. *B. mollis*. *Soft Brome-grass*. Panicle erect, close, compound; spikelets egg-shaped, slightly compressed, downy; flowers imbricated, depressed, ribbed; awns as long as the husks; leaves and sheaths very soft and downy.—From one to two feet high: spikelets of from five to ten flowers. Biennial: flowers in June and July: grows in fields, pastures, and by way-sides, abundant. A coarse grass, little relished by cattle. *Eng. Bot.* vol. xv. pl. 1078. *Eng. Fl.* vol. i. p. 153. 187.

4. *B. racemósus*. *Smooth Brome-grass*. Panicle nearly erect, spreading, slightly branched; spikelets between egg-shaped and oblong, smooth; flowers imbricated, depressed, ribbed; awns as long as the husks; leaves somewhat downy.—From one to two feet high: spikelets of from five to ten flowers. Biennial: flowers in June: grows in meadows and pastures. Probably a variety of the preceding. *Eng. Bot.* vol. xv. pl. 1054. *Eng. Fl.* vol. i. p. 154. 188.

5. *B. squarrosus*. *Corn Brome-grass*. Panicle drooping, scarcely branched; spikelets between egg-shaped and oblong; flowers imbricated, depressed, ribbed; awns spreading; leaves downy.—

Straw a foot high, smooth, striated: spikelets few, large, tumid, with from eight to fifteen flowers. Annual: flowers in July: grows in corn-fields in England: rare, and probably introduced among corn. *Eng. Bot.* vol. xxvii. pl. 1885. *Eng. Fl.* vol. i. p. 155.

189.

6. *B. arvensis*. *Taper Field Brome-grass*. Panicle drooping, spreading, compound with half-whorled branches; spikelets lance-shaped, acute; flowers about eight, imbricated, smoothish, about as long as the straight awn; leaves hairy.—Straw about three feet high, erect, smooth: leaves rough on the edges: panicle very large, with harsh, spreading branches. Annual: flowers in July: grows in corn-fields: rare, and probably introduced. *Eng. Bot.* vol. xxviii. pl. 1884. *Eng. Fl.* vol. i. p. 156.

190.

7. *B. erictus*. *Upright Perennial Brome-grass*. Panicle erect, slightly branched; spikelets narrow lance-shaped, compressed; flowers about eight, loosely imbricated, lance-shaped, compressed; awn straight, shorter than the husks; root-leaves very narrow, fringed with scattered hairs.—Straws from two to three feet high. Perennial: flowers in July: grows in fields and by road-sides: not common. *Eng. Bot.* vol. vi. pl. 471. *Eng. Fl.* vol. i. p. 157.

191.

8. *B. disper*. *Hairy Wood Brome-grass*. Panicle branched, drooping; spikelets narrow-oblong; flowers about eight, lance-shaped, compressed, downy; awns shorter than the husks; leaves uniform, the lower ones hairy.—Straw erect, from four to six feet high: leaves lance-shaped, pointed, ribbed, fringed at the edges. Annual: flowers in July and August: grows in woods and hedges: common. *Eng. Bot.* vol. xvii. pl. 1172. *Eng. Fl.* vol. i. p. 158.

192.

9. *B. sterilis*. *Barren Brome-grass*. Panicle nearly simple, drooping; spikelets narrow, lance-shaped; flowers about seven, lance-shaped, compressed, furrowed; awns longer than the husks; leaves downy.—Straws about two feet high: leaves linear, soft and downy, fringed at the edges. Annual: flowers in June and July: grows in hedges and by road-sides: common. *Eng. Bot.* vol. xv. pl. 1030. *Eng. Fl.* vol. i. p. 159.

193.

10. *B. diandrus*. *Upright Annual Brome-grass*. Panicle erect, somewhat spreading; flowers lance-shaped, with only two stamens.—Straws about a foot high, erect, stiff, slender, smooth. Annual: flowers in June and July: grows in sandy and gravelly soil: rare. *Eng. Bot.* vol. xiv. pl. 1006. *Eng. Fl.* vol. i. p. 160.

194.

11. *B. maximus*. *Great Brome-grass*. Panicle erect, loose, at length spreading; spikelets lanceolate, downy; awns two or three times as long as the husks; leaves downy on both sides.—Annual: flowers in June and July: found by Messrs. Babington and Christy on the sands of St. Aubin's Bay; Jersey. *Eng. Bot. Suppl.* pl. 2820. *Brit. Fl.* 4th ed. p. 47.

195.

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## 38. LAGURUS. HARE'S-TAIL-GRASS.

Calyx one-flowered, of two long, slender, membranous chaff-scales, fringed, as well as their terminal awn, with numerous soft hairs. Corolla of two unequal husks; the outer longest, egg-shaped, terminating in two equal erect awns, shorter than the calyx, and bearing a much longer awn from the middle of its back, twisted in its lower part, straight in the upper; inner husk smaller, involute, cleft, awnless. Nectary deeply-cleft,

acute. Filaments hair-like, shorter than the calyx; anthers erect, oblong, cleft at both ends. Germen oblong. Styles very short; stigmas cylindrical, feathery. Seed oblong, obtuse, loose, enveloped in the unaltered husks.—Name, *lagos*, a hare, and *oura*, a tail. 54.

1. *L. ovatus*. *Hare's-tail-grass*.—Straws about a foot high, erect, round: leaves lance-shaped, acute, ribbed, downy on both sides: sheaths inflated, ribbed, very downy: spike egg-shaped, many-flowered, woolly. Annual: flowers in June: grows in sandy ground: very rare. Guernsey. *Eng. Bot.* vol. xix. pl. 1334. *Eng. Fl.* vol. i. p. 167. • 190.

### 39. AVE/NA. OAT.

Calyx of two somewhat unequal, broadly lance-shaped, thin, awnless chaff-scales, containing a loose spikelet of several flowers. Corolla of two unequal husks; the outer egg-shaped, involute, pointed at both ends, deeply cleft at the top, and bearing from the back a spirally-twisted awn. Nectary of two lance-shaped scales. Filaments shorter than the corolla; anthers rather short. Germen obtuse. Styles short; stigmas densely feathered. Seed oblong, sometimes downy, enveloped in the hardened outer husk, which retains its awn.—Name, *Avena*, of the Romans. 55.

1. *A. fatua*. *Wild Oat*. Panicle erect; spikelets pendulous; flowers about three, shorter than the calyx, bristly at the base, all awned.—Straws three feet high, erect, round, smooth: leaves flat, linear, rough, sometimes hairy: panicle erect and spreading, with half-whorled, rough branches. The twisted awn makes an excellent hygrometer, and Smith says the flowers are used by rustic anglers instead of artificial flies. Annual: flowers in June and July: grows among oats and barley: common. *Eng. Bot.* vol. xxxi. pl. 2221. *Eng. Fl.* vol. i. p. 163. 197.

2. *A. strigosa*. *Bristle-pointed Oat*. Panicle oblong, inclined to one side: spikelets of two flowers; outer husk tipped with two straight bristles.—Straws three feet high: leaves rough: chaff-scales as long as the spikelet: dorsal twisted awn twice the length of the flower. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. xviii. pl. 1266. *Eng. Fl.* vol. i. p. 164. 198.

3. *A. pubescens*. *Downy Oat-grass*. Panicle erect, nearly simple; flowers about three, longer than the calyx, with a bearded stalk; leaves flat, downy; root somewhat creeping.—Straws about two feet high, smooth: leaves flat, obtuse, covered with soft hairs: flowers generally three, one of them imperfect: awn from the middle of the husk. Perennial: flowers in June: grows in pastures: not common. *Eng. Bot.* vol. xxiii. pl. 1640. *Eng. Fl.* vol. i. p. 164. 199.

4. *A. pratensis*. *Narrow-leaved Oat-grass*. Panicle erect, with very short simple branches; flowers about five, longer than the calyx, with a hairy stalk; leaves involute, finely serrated, with smooth sheaths.—Straw about a foot high, erect, stiff: leaves mostly radical: panicle erect, simple, with some of the upper spikelets sessile. Perennial: flowers in July: grows in dry pastures: common. *Eng. Bot.* vol. xvii. pl. 1204. *Eng. Fl.* vol. i. p. 165. 200.

5. *A. alpina*. *Alpine Oat-grass*. Panicle erect, slightly branched; flowers about five, longer than the calyx, with their stalk bearded under each; leaves flat, minutely serrated; root fibrous.—Two feet high, erect: leaves linear, rough on the edges and ribs: panicle erect, with rough branches. Perennial: flowers in July; found by Mr. G. Don, on the rocky summits of the Clova mountains in Angus-shire. *Eng. Bot.* vol. xxx. pl. 2141. *Eng. Fl.* vol. i. p. 165. 201.

6. *A. planiculmis*. *Flat-stemmed Oat-grass*. Panicle erect, branched, spreading; flowers from five to seven, much longer than the calyx: leaves broadly linear, rough, minutely serrate, their sheaths flat and sharply keeled; lower part of the straw two-edged.—Discovered by Mr. Stuart Murray, in Glen Sannox, Arran. Perennial: flowers in July. *Brit. Fl.* 4th ed. p. 49. 202.

7. *A. flavescens*. *Yellow Oat-grass*. Panicle erect, spreading, much branched; flowers about three, longer than the calyx; leaves flat, a little downy; root somewhat creeping.—Straws about eighteen inches high: panicle of numerous yellowish, shining spikelets. Perennial: flowers in July: grows in dry pastures: common. *Eng. Bot.* vol. xiv. pl. 952. *Eng. Fl.* vol. i. p. 166. 203.

#### 40. LOLIUM. DARNEL.

Common receptacle elongated, alternately channelled or excavated to receive the spikelets. Calyx many-flowered, of one lance-shaped, permanent chaff-scale. Corolla of two unequal husks, opposite to the calyx; the outer lance-shaped, somewhat keeled, acute, cleft at the point, the keel terminated by an awn; the inner elliptical, smaller, with the edges inflected. Nectary of two egg-shaped scales. Filaments hair-like, shorter than the corolla; anthers oblong, cleft at each end. Germen obtuse. Styles very short; stigmas feathery. Seed oblong, convex on one side, flat and furrowed on the other.—Name, *lolium*, of the Romans. 56.

1. *L. perenne*. *Common rye-grass*. *Red Darnel*. Corolla very slightly awned; spikelets longer than the calyx; flowers lance-shaped.—Root fibrous: stems several, about a foot high, round, smooth, stiff, with purplish tumid joints: leaves linear, pointed, smooth, striated: spike erect, purplish. This plant is subject to considerable variation, as it grows in rich or poor soil, being from six inches high to nearly three feet, and having the spike with few spikelets, or with a great number closely crowded together, or even having several spikes agglomerated. It is well known to farmers, being extensively cultivated. Perennial: flowers in June and July: grows in meadows and pastures, by road-sides, &c.: common. *Eng. Bot.* vol. v. pl. 315. *Eng. Fl.* vol. i. p. 173. 204.

2. *L. temulentum*. *Bearded Darnel*. Corolla with a long awn; spikelets shorter than the calyx; flowers elliptical; straw rough.—Straws two or three feet high, round, rough at the upper part: leaves rough on the upper side: spike from four to six inches long, with a rough stalk. Annual: flowers in July: grows in fields among wheat or barley. The seeds of this plant are said to produce intoxication and fatal convulsions. *Eng. Bot.* vol. xvi. pl. 1124. *Eng. Fl.* vol. i. p. 174. When the awn is imperfect, it is the *L. arvense*, *White Darnel*, of some botanists. *Eng. Bot.* vol. xvi. pl. 1125. *Eng. Fl.* vol. i. p. 175. 205.

## 41. ROTTBOELLIA. HARD-GRASS.

Common receptacle elongated, jointed, ultimately separating, alternately excavated to receive the flowers, of which there are commonly two in each excavation, one of them only being perfect. Calyx of two parallel lance-shaped valves, opposite to the excavation. Corolla of the perfect flower of two lance-shaped, membranous, nearly equal husks, inflexed at the edges. Nectary of two acute scales. Filaments thread-like; anthers oblong, cleft at both ends. Germen oblong, obtuse. Styles short; stigmas feathery, spreading. Seed oblong, shut up in the cavity of each joint of the receptacle by the closed husks, and falling off along with it.—Named after Professor *Rottboll* of Copenhagen. 57.

1. *R. incurvata*. *Sea Hard-grass*. Spike cylindrical, slender; chaff-scales united below; corolla awnless.—Straws numerous, from three to five inches long, spreading, round, smooth, jointed, leafy: leaves short, firm: spike very slender, hardly distinguishable from the straw. Annual: flowers in July and August: grows on the sea-shore: rare. *Eng. Bot.* vol. xi. pl. 760. *Eng. Fl.* vol. i. p. 176. 206.

## 42. ELYMUS. LYME-GRASS.

Common receptacle elongated, alternately excavated and toothed on each side. Spikelets two or more at each tooth. Calyx to each spikelet of two unequal, broadly lance-shaped husks, the outer largest, keeled, and pointed or awned, the inner cleft, inflexed at the edges, with a rib on each side. Nectary of two lance-shaped scales. Filaments hair-like, very short; anthers linear, notched at both ends. Germen turbinate. Stigmas feathery, spreading; seed linear, channelled on the upper side, very hairy at the summit.—Name, *elymos*, of the Greeks. 58.

1. *E. arenarius*. *Upright Sea Lyme-grass*. Spike erect, close; calyx lance-shaped, as long as the spikelets; leaves stiff, with a thorny point.—Root creeping: straws three or four feet high, erect, firm, round, striated, leafy: leaves hard and stiff, involute with a thorny point: spike from six to twelve inches long. Perennial: flowers in July: grows in sand on the sea-shore, in England, Scotland, and Ireland; but not common. *Eng. Bot.* vol. xxiv. pl. 1672. *Eng. Fl.* vol. i. p. 177. 207.

2. *E. geniculatus*. *Pendulous Sea Lyme-grass*. Spike bent downwards, lax; common receptacle winged; calyx awl-shaped, longer than the spikelets; leaves stiff, with a thorny point.—Root fibrous: straws taller but more slender than in the last: spike nearly two feet long. Perennial: flowers in July: grows in marshes near the coast: very rare. Salt-marsh near Gravesend. *Eng. Bot.* vol. xxiii. pl. 1686. *Eng. Fl.* vol. i. p. 178. 208.

3. *E. europæus*. *Wood Lyme-grass*. Spike erect, close; spikelets of about two flowers, rough, awned; calyx awned, as long as the spikelet; leaves flat, pliant.—Root fibrous: straw erect, two feet high, round, smooth, leafy: leaves lance-shaped, ribbed, flat, acute, rough: spike two or three inches long, erect, close, green: spikelets three at each notch. Perennial: flowers in June: grows

in woods, thickets and hedges, in England: frequent. *Eng. Bot.* vol. xix. pl. 1317. *Eng. Fl.* vol. i. p. 178. 209.

\* 43. HORDEUM. BARLEY.

Common receptacle elongated, jointed, toothed alternately on each side, the intermediate spaces flattened and bordered. Flowers three at each tooth, not all perfect. Calyx to each flower of two pointed or awned, parallel, erect chaff-scales. Corolla of two husks; the outer egg-shaped, angular, terminated by a long, straight, rough awn; the inner smaller, lance-shaped, flat, pointed, inflected at the edges. Nectary of two acute scales. Filaments hair-like, short; anthers notched at both ends. Germen turbinate. Styles very short; stigmas feathery, reflected. Seed oblong, pointed at both ends, channelled on the upper side, firmly united to the husks.—Name used by the Romans. 59.

1. *H. murinum*. *Wall Barley*. *Way Bennet*. Lateral flowers with stamens only; chaff-scales of the intermediate flower lance-shaped, fringed.—Root fibrous: stems from twelve to eighteen inches high, spreading at the base, then erect, smooth, leafy: leaves linear, flat, roughish: two lateral flowers stalked: central flower perfect and large. Annual: flowers in the summer months: grows by walls and road-sides: common. *Eng. Bot.* vol. xxviii. pl. 1971. *Eng. Fl.* vol. i. p. 179. 210.

2. *H. pratense*. *Meadow Barley*. Lateral flowers destitute of germen: all the chaff-scales bristle-shaped and rough.—Root fibrous: stems about two feet high, smooth, and leafless at the top: leaves narrow, roughish: lateral flowers stalked: central flower perfect and largest. Perennial: flowers in the summer months: grows in meadows and pastures: frequent in England, not found in Scotland. *Eng. Bot.* vol. vi. pl. 409. *Eng. Fl.* vol. i. p. 180. 211.

3. *H. maritimum*. *Sea Barley*. *Squirrel-tail-grass*. Lateral flowers with stamens only, their awns shorter: the inner scale of their calyx half egg-shaped.—Resembles *H. murinum*, but is smaller and stiffer: the awns are stiff and strongly barbed, so as to be extremely troublesome to horses when mixed with hay. Annual: flowers in the summer months: grows in pastures and sandy ground near the sea: common in England; very rare in Scotland. *Eng. Bot.* vol. xvii. pl. 1205. *Eng. Fl.* vol. i. p. 181. 212.

44. TRITICUM. WHEAT.

Common receptacle elongated, toothed alternately on each side, compressed, undulated. Spikelets solitary at each tooth, transverse to the stalk, many-flowered. Calyx of two oblong, ribbed, nearly equal, opposite chaff-scales, with or without terminal awns. Flowers three or more in a spikelet, applied laterally to the receptacle; outer husk oblong, furrowed, pointed or awned; inner flat, awnless, inflected at each end. Nectary of two acute scales. Filaments hair-like; anthers linear, forked at both ends. Germen turbinate. Styles short, distinct; stigmas feathery, reflected. Seed oblong, blunt at both ends, convex on one side, channelled on the other.—Named from *tritum*, beaten or thrashed. 60.

1. *T. jun'ceum*. *Sea Wheat-grass*. *Rush Wheat*. Chaff-scales obtuse, many-ribbed: flowers of each spikelet about five, awnless; leaves involute with a thorny point.—Root creeping: straw about a foot and a half high, simple, ascending, round, leafy, smooth below, striated above: leaves stiff, furrowed on the upper side, smooth on the back: spike from four to six inches long: spikelets rather distant, egg-shaped, of five or six awnless flowers: the receptacle separates at the joints as in *Rottbollia incurvata*. Perennial: flowers in July: grows in sand on the sea-coast, along with *Arundo arenaria*: common. Its long roots tend to fix the sand. *Eng. Bot.* vol. xii. pl. 314. *Eng. Fl.* vol. i. p. 182. 213.

2. *T. repens*. *Creeping Wheat-grass*. *Couch-grass*. Chaff-scales pointed or awned, lance-shaped, many-ribbed; flowers of each spikelet about five, sharp-pointed or awned; leaves flat; root creeping.—Root long, creeping: straws about two feet high, erect, leafy: leaves linear, flat, spreading, their margins and upper surface rough: spike about three inches long, erect, its stalk somewhat hairy: a variety, of a pale bluish-green or glaucous colour, occurs in maritime places. Perennial: flowers in June and July: grows in fields, by hedges and in waste places: common. *Eng. Bot.* vol. xiii. pl. 909. *Eng. Fl.* vol. i. p. 183. 214.

3. *T. caninum*. *Fibrous-rooted Wheat-grass*. *Dog's Wheat*. Chaff-scales somewhat awned, lance-shaped, with three or five ribs; flowers of each spikelet four, awned; leaves flat; root fibrous.—Root of numerous downy fibres: straws about two feet high, erect, leafy: leaves linear, flat, [nearly erect, rough on both sides: spike three or four inches long, a little inclining. Perennial: flowers in June and July: grows in woods and hedges: common. *Eng. Bot.* vol. xx. pl. 1372. *Eng. Fl.* vol. i. p. 184. 215.

4. *T. cristatum*. *Crested Wheat-grass*. Chaff-scales elliptical, awned, keeled, indistinctly ribbed, flowers awned; spikelets of about four crowded flowers; straws simple.—Root of long woolly fibres: straws about eighteen inches high, stiff, slender, leafy: leaves linear, keeled, long-pointed, very hairy on the upper surface: spike an inch or more in length. Perennial: flowers in July: found many years ago on the coast between Arbroath and Montrose, by Mr. G. Don. *Eng. Bot.* vol. xxxii. pl. 2267. *Eng. Fl.* vol. i. p. 185. 216.

5. *T. loliaceum*. *Dwarf Sea Wheat-grass*. Chaff-scales obtuse, awnless; flowers of each spikelet numerous, elliptical, ribbed, awnless; spikelets all directed one way; straw branched; root fibrous.—Root of long downy fibres: straw stiff and wiry, three or four inches high, very smooth, reddish-brown: leaves linear, acute, nearly smooth. Annual: grows in sandy pastures on the sea-coast: not common. *Eng. Bot.* vol. iv. pl. 221. *Eng. Fl.* vol. i. p. 185. 217.

## TRIGYNIA.

### 45. MONTIA. WATER-CHICKWEED.

Calyx inferior, of two egg-shaped, concave, erect, permanent leaves. Corolla of one petal, divided into five segments; three smaller, bearing the stamens. Filaments hair-like, as long as the corolla, to which they are attached; anthers small, two-

lobed. Germen superior, turbinate, three-lobed. Styles very short; stigmas three, oblong, downy above. Capsule turbinate, one-celled, three-valved. Seeds three, roundish.—Named after *Joseph de Monti*. 61.

1. *M. fontina*. *Water Chickweed*. *Water Blinks*.—Root fibrous: stems succulent, two or three inches high, much branched: leaves opposite, egg-shaped: flowers small, white; seeds black, shining. Annual: flowers in May: grows in springs, and by the sides of rivulets, forming dense tufts: common. *Eng. Bot.* vol. xvii. pl. 1206. *Eng. Fl.* vol. i. p. 187. 218.

#### 46. HOLOSTEUM. HOLOSTEUM.

Calyx inferior, of five egg-shaped, permanent leaves. Petals five, oblong, deciduous, jagged or toothed. Filaments three, hair-like, shorter than the petals; anthers roundish. Germen roundish. Styles three, hair-like, short; stigmas bluntish, downy. Capsule nearly cylindrical, one-celled, splitting at the top into six teeth. Seeds numerous, stalked, attached to a central receptacle.—Named from *holos*, all, and *osteon*, bone. 62.

1. *H. umbellatum*. *Umbelliferous Mouse-ear*, or *Jagged Chickweed*. Flowers in umbels; leaves egg-shaped, acute.—Root fibrous: stems four or five inches high, round, leafy: petals white, tinged with red. Annual: flowers in April: grows on old walls: rare. About Norwich and Bury. *Eng. Bot.* vol. i. pl. 27. *Eng. Fl.* vol. i. p. 188. 219.

#### 47. POLYCARPON. ALL-SEED.

Calyx inferior, of five, egg-shaped, keeled, permanent leaves. Petals five, shorter than the calyx, egg-shaped, notched at the end, permanent. Filaments three, sometimes five, thread-shaped, half the length of the calyx; anthers roundish, two-lobed. Germen egg-shaped. Styles three, short; stigmas blunt. Capsule egg-shaped, one-celled, three-valved. Seeds numerous, egg-shaped, nearly sessile, on a central receptacle.—Named from *polus*, many, and *carpos*, seed. 63.

1. *P. tetraphyllum*. *Four-leaved All Seed*.—Root tapering: stem much branched, lying flat on the ground: leaves inversely egg-shaped, smooth, stalked, in fours, one pair crossing the other: panicles terminal, repeatedly forked: flowers greenish white. Annual: flowers throughout the summer, grows on the sea-shore: rare. Southern counties of England: Guernsey and Jersey. *Eng. Bot.* vol. xv. pl. 1031. *Eng. Fl.* vol. i. p. 189. 220.

### CLASS IV. TETRANDRIA.

*Plants bearing Flowers with Four Stamens.*

Order I. MONOGYNIA. One Pistil.

\* *Flowers of one petal, superior, one-seeded.*

1. *DIPSACUS*. *Involute* many-leaved. *Calyx* single, superior, of one leaf, cup-shaped, undivided, crowning the seed.
2. *SCABIOSA*. *Involute* many-leaved. *Calyx* double, superior, variously cut, crowning the seed.



**\*\* Flowers of one petal, superior, two-seeded.**

6. RU'BIA. *Corolla* bell-shaped. *Fruit* pulpy.
5. GA'L'IUM. *Corolla* wheel-shaped. *Fruit* dry, crowned by the calyx.
4. ASPE'RULA. *Corolla* tubular. *Fruit* not crowned.
3. SHERA'R'DIA. *Corolla* tubular. *Fruit* crowned.

**\*\*\* Flowers of one petal, inferior.**

7. EX'ACUM. *Corolla* salver-shaped, spreading. *Stamens* shorter than the limb. *Capsule* two-valved, separating at the top.
8. PLANTA'GO. *Corolla* with the segments reflected. *Stamens* very long. *Capsule* two-celled, bursting all round.
9. CENTU'NCULUS. *Corolla* tubular, spreading. *Stamens* short. *Capsule* one-celled, bursting all round.

**\*\*\*\* Flowers of four petals.**

11. EPIME'DIUM. *Nectaries* four, lying on the petals. *Pod* one-celled, many-seeded. *Calyx* deciduous.
12. CO'R'NUS. *Nectaries* none. *Drupe* inferior. *Nut* two-celled. (*Cardamine. Seneciera.*)

**\*\*\*\*\* No petals.**

13. PARIETA'RIA. *Calyx* four-cleft, inferior. *Stamens* elastic. *Seed* inclosed in the elongated calyx. Some flowers destitute of stamens.
14. IS'NARDIA. *Calyx* four-cleft, superior. *Capsule* quadrangular, four-celled, crowned by the calyx.
10. SANGUI'SO'R'BA. *Calyx* four-cleft, superior, coloured. *Stamens* dilated upwards. *Capsule* quadrangular, one-celled, not bursting.
15. ALCHEMI'LLA. *Calyx* eight-cleft, inferior. *Fruit* one-seeded, surrounded by the calyx.

## Order II. DIGYNIA. *Two Pistils.*

(*Alchemilla*, some species of *Gentiana* and *Cuscuta*.)

## Order III. TETRAGYNIA. *Four Pistils.*

16. I'LEX. *Corolla* wheel-shaped, four or five-cleft. *Berry* round, four-seeded, some flowers destitute of pistil.
19. SAG'I'NA. *Petals* four. *Capsule* one-celled, four-valved.
20. MØ'NCHIA. *Petals* four. *Capsule* one-celled, one-valved.
22. RADIO'LA. *Petals* four. *Capsule* eight-celled, eight-valved.
21. TILLÆ'A. *Petals* four, three, or five. *Capsules* several. *Seeds* several.
17. POTAMOGE'TON. *Petals* four. *Calyx* none. *Seeds* four, naked, sessile.
18. RU'PPIA. *Petals* none. *Calyx* none. *Seeds* four, stalked. (*Cerastium*.)

## • TETRANDRIA.—MONOGYNIA.

### 1. DIP'SACUS. TEASEL.

Involucre many-flowered, of many spreading, permanent leaves. *Calyx* superior, double, short, undivided. *Corolla* of one petal, tubular; the limb four-lobed, the outer lobe larger.

Filaments hair-like, longer than the corolla; anthers oblong, fixed sidewise. Germen inferior. Style thread-like, as long as the corolla; stigma simple. Seed naked, solitary, oblong, crowned with the calyx. Common receptacle conical, covered with scales.—Named from *dipsao*, to thirst, the upper leaves containing water. 64.

1. *D. Fullonum*. *Fuller's Teasel*. Leaves united, serrate; scales of the receptacle hooked backwards; involucre spreading.—Root fleshy, tapering: stem five or six feet high, erect, furrowed, prickly, branched above: leaves oblong, sessile, united at the base, serrate: flowers whitish. Cultivated for the use of clothiers, who employ the scales of the receptacle to raise the knap upon woollen cloths. For this purpose the heads are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them. Biennial: flowers in July: grows about hedges: rare. It is probably only a variety of *D. sylvestris*. *Eng. Bot.* vol. xxix. pl. 2080. *Eng. Fl.* vol. i. p. 192. 221.

2. *D. sylvestris*. *Wild Teasel*. Leaves opposite, serrate, scales of the receptacle straight; involucre bent inwards, longer than the head of flowers.—About four feet high: leaves lance-shaped: heads large. Biennial: flowers in July: grows about hedges and by road-sides: frequent in England; rare in Scotland. *Eng. Bot.* vol. xv. pl. 1032. *Eng. Fl.* vol. i. p. 193. 222.

3. *D. pilosus*. *Small Teasel*. *Shepherd's Staff*. Leaves stalked with two leaflets at the base; receptacle turned downwards, about the length of the head.—Stem three or four feet high: flowers white, in small, round heads. Biennial: flowers in August and September: grows in moist, shady places: rare. In Norfolk, Suffolk, and Derbyshire. *Eng. Bot.* vol. xiii. pl. 877. *Eng. Fl.* vol. i. p. 193. 223.

## 2. SCABIOSA. SCABIOUS.

Involucre many-flowered, of many spreading leaves, arranged in several rows. Calyx double, the outer shortest, plaited, the inner in five awl-shaped segments. Corolla of one petal, tubular, dilated upwards; limb with four or five divisions. Filaments hair-like, longer than the limb; anthers oblong, fixed sidewise. Germen inferior. Style thread-like, as long as the corolla; stigma blunt, cleft. Seed naked, solitary, crowned by the calyx. Common receptacle convex, chaffy, bristly or naked.—Named from *scabies*, a cutaneous disease. 65.

1. *S. succisa*. *Devil's-bit Scabious*. Corolla divided into four equal segments; heads of flowers nearly globular; leaves of the stem distantly toothed.—Root fleshy, abrupt at the lower end: stem about a foot high: root-leaves inversely egg-shaped, entire: stem-leaves toothed or serrated, the uppermost lance-shaped, entire: flowers deep purplish-blue. Perennial: flowers in June and July: grows in meadows and pastures: common. "The great part of the root," says Gerarde, "seemeth to be bitten away: old fantastick charmers report, that the divel did bite it for envie, because it is an herbe that hath so many good vertues, and is so beneficial to mankind." *Eng. Bot.* vol. xiii. pl. 878. *Eng. Fl.* vol. i. p. 194. 224.

2. *S. arvensis*. *Field Scabious*. Corolla four-cleft; the external

flowers radiating; leaves pinnatifid, jagged; stem bristly.—Roots long, branched: stem about three feet high: root-leaves lance-shaped, serrated, stalked: stem-leaves pinnatifid, sessile: flowers pale-purple, those of the circumference larger. Perennial: flowers in July: grows in pastures, the edges of corn-fields, and by road-sides: common. *Eng. Bot.* vol. x. pl. 639. *Eng. Fl.* vol. i. p. 195. 225.

3. *S. columbária*. \* \* \* *Small Scabious*. Corolla divided into five unequal segments: root-leaves egg-shaped, notched; the others pinnatifid, linear.—Root woody: stem about a foot high: root-leaves stalked, the others sessile: flowers radiating. Perennial: flowers in June and July: grows in dry pastures: frequent in England: rare in Scotland. *Eng. Bot.* vol. xix. pl. 1311. *Eng. Fl.* vol. i. p. 195. 226.

### 3. SHERARDIA. FIELD-MADDER.

Calyx very small, of one leaf, six-toothed, superior. Corolla of one petal, funnel-shaped, with four equal, acute segments. Filaments recurved, arising from the mouth of the tube; anthers roundish. Germen inferior, two-lobed. Style hair-like, cleft at the top; stigmas knobbed. Seeds two, roundish, rough, crowned with the calyx.—Named in honour of *James Sherard*, a patron of botany. 66.

1. *S. arvensis*. *Little Field-madder*, or *Spurwort*. All the leaves in whorls; flowers terminal.—Root small: stems numerous, spreading, generally decumbent: leaves six in a whorl: flowers pale purplish-blue, in a sessile terminal umbel. Annual: flowers from May to July: grows in corn and fallow fields: common. *Eng. Bot.* vol. xiii. pl. 891. *Eng. Fl.* vol. i. p. 196. 227.

### 4. ASPERULA. WOODRUFF.

Calyx small, four-toothed, superior, deciduous. Corolla of one petal, funnel-shaped; tube nearly cylindrical; limb in four oblong, spreading segments. Filaments from the mouth of the tube, short; anthers two-lobed. Germen inferior, two-lobed. Style thread-like, cleft; stigmas knobbed. Seeds two, adhering together, not crowned by the calyx.—Named from *asper*, rough. 67.

1. *A. odorata*. *Sweet Woodruff*. Leaves eight in a whorl, lance-shaped; panicles stalked; few-flowered.—Stems simple, about a foot high: leaves spreading, rough at the edges: flowers white. The plant in drying emits a pleasant odour, resembling that of new hay. Perennial: flowers in May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 755. *Eng. Fl.* vol. i. p. 197. 228.

2. *A. Cymanthica*. *Squinancy Wort*. *Small Woodruff*. Leaves four in a whorl, linear, the upper ones very unequal; flowers four-cleft.—Stems about six inches high: flowers white in terminal panicles. Perennial: flowers in June and July: grows on dry banks, in various parts of England. *Eng. Bot.* vol. i. pl. 33. *Eng. Fl.* vol. i. p. 198. 229.

### 5. GALIUM. BED-STRAW.

Calyx very small, four-toothed, superior. Corolla of one petal, wheel-shaped, with four acute divisions. Filaments from the base of the corolla, awl-shaped, shorter than the limb; an-

thers two-celled. Germen inferior, of two united globes. Style thread-shaped, cleft, as long as the stamens; stigmas knobbed. Seeds two, naked, united; globular, not crowned by the calyx.—Named from *galæ*, milk, which it curdles. 68.

\* *Fruit smooth.* . . .

1. *G. cruciatum.* *Cross-wort.* Leaves four in a whorl, egg-shaped, hairy; stem hairy, simple above; flower-stalks axillar, corymbose, two-leaved. —Stem branched at the base, a foot high, square, feeble: flowers small, yellow. Perennial: flowers in May and June: grows by hedges and way-sides: common. *Eng. Bot.* vol. ii. pl. 143. *Eng. Fl.* vol. i. p. 199. 230.

2. *G. palustre.* *White Water Bed-straw.* Leaves from four to six in a whorl, unequal, oblong, obtuse; stems weak, branched in the upper part.—Stem much branched, from two to four feet high: flowers white, in terminal panicles. Perennial: flowers in June: grows in moist meadows, and the borders of rivers and pools, among reeds and sedges: common. *Eng. Bot.* vol. xxvi. pl. 1857. *Eng. Fl.* vol. i. p. 200. When the angles of the stem, and the nerves at the back and margins of the leaves, are rough with prickles, it is the *G. Witheringii*, *Rough Heath Bed-straw.* *Eng. Bot.* vol. xxxi. pl. 2206. *Eng. Fl.* vol. i. p. 200. 231.

3. *G. uliginosum.* *Rough Marsh Bed-straw.* Leaves six in a whorl, between lance-shaped and inversely egg-shaped, stiff, bristle-pointed, the margins rough with recurved prickles.—Stems feeble, about a foot high, with recurved prickles: panicles terminal, small; corolla white. Perennial: flowers in August: grows in wet places, among reeds and other plants: common. *Eng. Bot.* vol. xxviii. pl. 1972. *Eng. Fl.* vol. i. p. 201. 232.

4. *G. saratile.* *Smooth Heath Bed-straw.* Leaves six in a whorl, inversely egg-shaped, bristle-pointed; stem much branched, smooth, prostrate.—Stems prostrate, spreading, square, smooth: flowers numerous, white, in terminal and lateral panicles. Perennial: flowers in June and July: grows abundantly in dry heathy places, among stones, &c.: common. *Eng. Bot.* vol. xii. pl. 815. *Eng. Fl.* vol. i. p. 201.\* 233.

5. *G. erectum.* *Upright Bed-straw.* Leaves about eight in a whorl, lance-shaped, bristle-pointed, the edges with minute prickles pointing forward; stem weak, slightly hairy under the joints; segments of the corolla taper-pointed.—Stems rather erect, swelled at the joints, four-cornered, somewhat hairy, branched: flowers white, in dense, terminal, compound panicles. Perennial: flowers in June and July: grows in hedges and pastures: rare. Norfolk, Sussex, and Cambridge. *Eng. Bot.* vol. xxix. pl. 2067. *Eng. Fl.* vol. i. p. 201. 234.

6. *G. cinereum.* “Leaves six or eight in a whorl, linear, bristle-pointed, with marginal prickles, all pointing forward.—Stem weak, much branched, smooth: corolla taper-pointed.” Perennial: flowers in August. Banks of the river Leith, near Edinburgh, Mr. G. Don. *Eng. Bot. Suppl.* pl. 2783. *Eng. Fl.* vol. i. p. 203. 235.

7. *G. Parisiense.* *Wall Bed-straw.* Leaves six in a whorl, lance-shaped, pointed, fringed with prickles; stems straggling, rough.—

Stems decumbent, square, the angles rough with deflected prickles : flowers pale greenish-yellow. Annual : flowers in June and July : grows on walls and dry sandy ground in the South of England. *Eng. Bot.* vol. vi. pl. 384. *G. Anglicum.* *Eng. Fl.* vol. i. p. 209.

236.

8. *G. aristatum.* *Bearded Bed-straw.* Leaves six in a whorl, stalked, lance-shaped, bristle-pointed, the edges with minute prickles pointing forward ; stem much branched, spreading, smooth ; segments of the corolla taper-pointed.—Stems numerous, a foot high, erect, square, smooth : flowers white, in terminal, compound panicles. Perennial : flowers in July and August. Found in Angus-shire by Mr. G. Don. *Eng. Bot. Suppl.* pl. 2784. *Eng. Fl.* vol. i. p. 204.

237.

9. *G. saccharatum.* *Warty-fruited Bed-straw.* Leaves six in a whorl, lance-shaped, the edges with minute prickles pointing forward ; stem spreading, slightly branched, rough at the angles ; stalks axillar, three-flowered.—Stems several, about six inches long : flowers small, pale-yellow : fruit covered with pyramidal warts. Annual : flowers in July : grows in corn-fields : rare. Carse of Gowrie, and near Forfar. Near Malton, Yorkshire. *Eng. Bot.* vol. xxxi. pl. 2173. *G. verrucosum.* *Eng. Fl.* vol. i. p. 205.

238.

10. *G. tricorne.* *Three-flowered Goose-grass.* Leaves about eight in a whorl, lance-shaped, the edges and ribs with minute reflected prickles ; stems several, simple, with deflected prickles ; stalks axillar, three-flowered.—Stems weak, spreading : flowers greenish-white : fruit covered with bristly granulations. Annual : flowers in July : grows in dry fields in England : not common. *Eng. Bot.* vol. xxiii. pl. 1641. *Eng. Fl.* vol. i. p. 205.

239.

11. *G. spurius.* *Smooth-fruited Corn Bed-straw.* Leaves about eight in a whorl, lance-shaped, the edges rough with minute reflected prickles ; stems with reflected prickles ; stalks axillar, many-flowered : fruit smooth.—Stems weak, spreading : flowers greenish-white, in axillar cymes. Annual : flowers in June and July : found in corn-fields about Forfar, by Mr. G. Don. *Eng. Bot.* vol. xxvi. pl. 1871. *Eng. Fl.* vol. i. p. 206.

240.

12. *G. pusillum.* *Least Mountain Bed-straw.* Leaves eight in a whorl, narrow lance-shaped, bristle-pointed, somewhat hairy, entire at the margin ; panicles terminal, forked ; fruit smooth.—Stems very numerous, branched, square, spreading : flowers white, in forked panicles, terminating the stem and branches. Perennial : flowers in July and August : grows in dry places on hilly ground : rare. *Eng. Bot.* vol. ii. pl. 74. *Eng. Fl.* vol. i. p. 206.

241.

13. *G. Mollugo.* *Great Hedge Bed-straw.* Leaves eight in a whorl, elliptical, blunty, bristle-pointed, rough-edged ; flowers in loose terminal panicles.—Stem four feet high, feeble, square, swelled above the whorls, smoothish : flowers abundant, white. Perennial : flowers in July and August : grows in hedges and thickets : frequent. *Eng. Bot.* vol. xxiv. pl. 1673. *Eng. Fl.* vol. i. p. 203.

242.

14. *G. verum.* *Common Yellow Bed-straw.* Leaves eight in a whorl, linear, charnelled, entire at the edges, rough : flowers in dense panicles.—Root very long, creeping, reddish-brown : stems about a foot high, decumbent at the base, hard, much branched : flowers greenish-yellow, very numerous, in dense pa-

nicles. The roots are used in the Hebrides for dyeing a brownish-red colour: in sandy soil they attain a length of many feet, and are there easily procured, but the digging for them is injurious by setting loose the sand. Perennial: flowers in June and July: grows in pastures, abundantly. *Eng. Bot.* vol. x. pl. 660. *Eng. Fl.* vol. i. p. 208. 243.

\*\* *Fruit covered with bristles.*

15. *G. boreale*. *Cross-leaved Bed-straw*. Leaves four in a whorl, between egg-shaped and lance-shaped, three-nerved, smooth, with rough edges; stems erect. —Root creeping, reddish: stems a foot high, erect, square, roughish: flowers white, in numerous branched panicles. Perennial: flowers in July: grows in shady places, by rivers and lakes, in the north of England, in Scotland, and Ireland: frequent. *Eng. Bot.* vol. ii. pl. 105. *Eng. Fl.* vol. i. p. 209. 244.

16. *G. Aparine*. *Goose-grass, or Cleavers*. Leaves eight in a whorl, lance-shaped, keeled, rough, fringed with reflected prickles; stems feeble. —Root fibrous: stem branched, from two to six feet long: flowers few, white, in axillar panicles. Annual: flowers from May to August: grows in hedges: common. *Eng. Bot.* vol. xii. pl. 816. *Eng. Fl.* vol. i. p. 210. 245.

#### 6. RUBIA. Madder.

Calyx very small, four-toothed, superior. Corolla of one petal, bell-shaped, with four or five divisions, without a tube. Filaments awl-shaped, shorter than the corolla: anthers of two round cells. Germen inferior, of two round lobes. Style thread-shaped, cleft at the top; stigmas knobbed. Berry of two smooth lobes. Seeds solitary, roundish, with a depression. —Named from *ruber*, red, to dye which one of the species is used. 69.

1. *R. peregrina*. *Wild Madder*. Leaves about four in a whorl, elliptical, shining and smooth on the upper side; flowers five-cleft. —Root creeping, fleshy: stem square, branched, partly remaining during the winter: flowers yellowish-green, in compound, terminal panicles. Perennial: flowers in June and July: grows in thickets, and on sandy ground, in England: frequent. Said by Dr. Mitchell, *Linn. Corresp.* vol. ii. p. 449, to be "plentiful all over the sandy islands on the west of Scotland;" but he must have mistaken for it *Galium verum*, the root of which is similar, and also used for dyeing. *Eng. Bot.* vol. xii. pl. 851. *Eng. Fl.* vol. i. p. 211. 246.

#### 7. EX'ACUM. MARSH CENTAURY.

Calyx of one leaf, inferior, deeply divided into four equal, acute segments. Corolla of one petal, permanent; tube globular, as long as the calyx; limb four-cleft. Filaments thread-shaped, attached to the tube, as long as the limb; anthers roundish, two-celled. Germen oval, superior. Style thread-shaped, erect, as long as the limb; stigma knobbed. Capsule filling the tube of the corolla, which remains upon it. Seeds numerous, small, attached to a central receptacle. —Named from *ex*, out of, and *ago*, to drive, a plant to which the name was applied having been supposed to expel poison. 70.

1. *E. filiforme*. *Least Gentian*. *Marsh Centaury*. Leaves sessile; stem thread-like, forked; flowers on long stalks.—Stem about three or four inches high, erect, round, branched; leaves chiefly radical, lance-shaped; flowers small, erect, yellow. Annual: flowers in July: grows on sandy bogs, in the south of England, and in some parts of Ireland: rare. *Eng. Bot.* vol. iv. pl. 235. *Eng. Fl.* vol. i. p. 212. 247.

#### 8. PLANTA'GO. PLANTAIN.

Calyx inferior, of one leaf, four-cleft, permanent. Corolla of one petal, tubular, membranous; permanent; tube swelled; limb four-cleft, reflected. Filaments thread-like, arising from the tube, exceedingly long; anthers oblong, compressed, two-celled. Germen inferior, egg-shaped. Style thread-shaped, half as long as the stamens; stigma hairy, acute. Capsule egg-shaped, two-celled. Seeds oblong, sessile.—Name of doubtful origin. 71.

1. *P. major*. *Greater Plantain*. Leaves egg-shaped, smooth, on longish stalks; flower-stalks round; spike long and tapering; seeds numerous.—Root of long fibres: leaves broad, with seven ribs: stalk from nine to eighteen inches high, somewhat rough with short hairs. Perennial: flowers in June and July: grows in pastures and by way-sides: not uncommon. *Eng. Bot.* vol. xxii. pl. 1558. *Eng. Fl.* vol. i. p. 213. 248.

2. *P. média*. *Hoary Plantain*. Leaves egg-shaped, downy, on very short stalks; flower-stalks round; spike cylindrical; seeds one in each cell.—Root somewhat woody: leaves hoary, with seven ribs: stalk about six inches high, downy. Perennial: flowers in June and July: grows in pastures and by way-sides: common in some parts of England and Ireland, rare in Scotland. The leaves of this and the preceding species are by the common people frequently applied to wounds. Cattle generally reject them. *Eng. Bot.* vol. xxii. pl. 1559. *Eng. Fl.* vol. i. p. 214. 249.

3. *P. lanceolata*. *Ribwort Plantain*. Leaves lance-shaped; flower-stalks deeply furrowed; spike egg-shaped.—Leaves tapering at the base into a broad stalk; hairy at its insertion: stalk about a foot high: spike dark brown. Perennial: flowers from May to August: grows in pastures, meadows, on banks, by way-sides, &c.: common. *Eng. Bot.* vol. viii. pl. 175. *Eng. Fl.* vol. i. p. 214. 250.

4. *P. maritima*. *Sea Plantain*. Leaves linear, channelled, nearly entire; flower-stalks round, longer than the leaves; spike cylindrical.—Roots large, long, somewhat woody: leaves woolly at the base: stalk from three to ten inches high. Perennial: flowers in June and July: grows in the clefts of rocks, in dry pastures, among sand and stones, on the sea-shore, and upon the higher mountains of Wales and Scotland: common. *Eng. Bot.* vol. iii. p. 175. *Eng. Fl.* vol. i. p. 215. 251.

5. *R. Corónopus*. *Beak's-horn Plantain*. Leaves pinnatifid; flower-stalks round.—Root tapering: leaves cut laterally into numerous linear segments, hairy, lying flat on the ground: stalk from two to six inches high: capsule four-celled. Annual: flowers in June and July: grows in sandy and gravelly ground, chiefly near the sea: common. *Eng. Bot.* vol. xiii. pl. 892. *Eng. Fl.* vol. i. p. 216. 252.

## 9. CENTUNCULUS. CHAFF-WEED.

Calyx inferior, of one leaf, four-cleft, permanent. Corolla of one petal, tubular, not permanent, tube nearly globular; limb four-cleft, expanded. Filaments thread-shaped, very long, arising from the mouth of the tube; anthers roundish, two-celled. Germen oblong. Style thread-shaped, as long as the stamens; stigma acute. Capsule globose, one-celled. Seeds numerous, minute, fixed to the central receptacle.—Name doubtful. 72.

1. *C. minimus*. *Small Chaff-weed*. Flowers sessile; corolla destitute of glands at the base.—From one to two inches high: leaves sessile, egg-shaped, smooth: flowers axillar, solitary, sessile, white. Annual: flowers in June: grows on moist sandy ground: rare. *Eng. Bot.* vol. viii. pl. 531. *Eng. Fl.* vol. i. p. 217. 253.

## 10. SANGUISORBA. BURNET.

Calyx superior, of one leaf, deeply four-cleft, the segments egg-shaped, coloured. Corolla none. Filaments dilated upwards, as long as the calyx; anthers roundish, two-celled. Germen inferior, four-cornered. Style thread-shaped, short; stigma notched. Capsule four-cornered, one-celled, not bursting. Seeds one or two, elliptical.—Named from *sanguis*, blood, and *sorbeo*, to absorb. 73.

1. *S. officinalis*. *Great Burnet*. Spikes egg-shaped.—A hard, somewhat woody plant, about two feet high: stem erect, furrowed: leaves pinnate: leaflets heart-shaped, serrate, about four pairs, with a terminal one: spikes about an inch long, purple. Perennial.

## 11. EPIMEDIUM. BARREN-WORT.

Calyx inferior, of four small egg-shaped deciduous leaves. Corolla of four egg-shaped, equal petals. Nectaries four, lying upon the petals, nearly as large. Filaments awl-shaped, close to the style; anthers oblong, two-celled, opening from the base upwards. Germen oblong. Style roundish, as long as the stamens; stigma simple. Pod oblong, tapering to a point, one-celled, two-valved. Seeds numerous, oblong.—Name of doubtful origin. 74.

1. *E. Alpinum*. *Barren-wort*. Stem-leaf thrice ternate.—Root slender: stems simple, about a foot high, each bearing a single delicate leaf, which is thrice ternate, with heart-shaped fringed leaflets: petals dark-red, with pale-yellow nectaries. Perennial: flowers in May: grows in thickets in the mountainous parts of the north of England: rare, and certainly not indigenous. *Eng. Bot.* vol. vii. pl. 438. *Eng. Fl.* vol. i. p. 220. 255.

## 12. CORNUS. CORNEL.

Calyx superior, very small, four-toothed, deciduous. Corolla of four oblong, equal petals. Filaments awl-shaped, erect,



longer than the petals; anthers roundish, fixed sidewise. Germen inferior, roundish. Style thread-shaped, as long as the corolla; stigma obtuse. Drupe roundish, dimpled. Nut oblong or heart-shaped, two-celled, with one kernel in each.—Named from *cornu*, a horn, the wood being hard. 75.

1. *C. sanguinea*. *Wild Cornel. Dog-wood*. Woody; branches straight; leaves opposite, green on both sides; cymes destitute of involucre.—A small tree or bush, five feet high: branches deep-red: leaves opposite, stalked, egg-shaped, smooth, turning red in autumn: flowers white, in terminal cymes: fruit dark-purple. flowers in June: grows in hedges and thickets in England: frequent. *Eng. Bot.* vol. iv. pl. 249. *Eng. Fl.* vol. i. p. 221. 256.

2. *C. Suéica*. *Dwarf Cornel*. Herbaceous; flowers umbellate, surrounded by a four-leaved involucre, the umbel springing from the fork of the stem.—Stems from four to six inches high, erect, leafy, forked; flowers dark-purple, very small: leaves opposite, elliptical. Perennial: flowers in June and July: grows in heathy pastures, in Scotland and the north of England: frequent. *Eng. Bot.* vol. v. pl. 310. *Eng. Fl.* vol. i. p. 221. 257.

### 13. PARIETARIA. PELLITORY.

Calyx inferior, of one leaf, divided into four deep segments, permanent. Corolla none. Filaments awl-shaped, longer than the calyx, recurved; anthers of two distinct lobes. Germen egg-shaped. Style thread-shaped, erect; stigma knobbed. Seed egg-shaped, flattened, invested with the enlarged calyx.—Named from *paries*, a wall. 76.

1. *P. officinalis*. *Common Pellitory of the Wall*. Leaves between egg-shaped and lance-shaped; involucre of many egg-shaped leaflets.—Root somewhat woody: stems branched, four-cornered, hairy, reddish: leaves alternate, stalked: flowers numerous, small, axillar, growing in threes, the middle one pistilliferous only. Perennial: flowers through the summer; grows on old walls and among rubbish: common. This plant was formerly in repute as a medicine, but it does not seem to possess any remarkable qualities. *Eng. Bot.* vol. xiii. pl. 879. *Eng. Fl.* vol. i. p. 222. 258.

### 14. ISNARDIA. ISNARDIA.

Calyx superior, bell-shaped, divided into four equal, egg-shaped segments. Corolla none. Filaments awl-shaped, shorter than the calyx; anthers oblong, simple. Germen inferior, four-cornered. Style cylindrical, long; stigma knobbed. Capsule four-cornered, oblong, four-celled, crowned with the calyx. Seeds numerous, oblong.—Named after *Antoine d'Isnard*, a French botanist. 77.

1. *I. palustris*. *Marsh Isnardia*. Roots long, thread-like: stems bluntly four-cornered, leafy: leaves opposite, stalked, egg-shaped, bright green: two acute, small bractes: flowers axillar, solitary, sessile, green. Annual: flowers in July; floating in pools: very rare. Found at Buxted, Sussex, by Mr. W. Borrer. Hampshire. *y. Eng. Bot. Suppl.* pl. 2593. *Eng. Fl.* vol. i. p. 223. 259.

15. *ALCHEMILLA*. *LADY'S MANTLE*.

Calyx inferior, of one leaf, tubular, permanent; limb divided into eight segments, the four outer alternate ones smaller. Corolla none. Filaments awl-shaped, erect, small, standing on the mouth of the calyx; anthers roundish. Germen egg-shaped, in the bottom of the calyx. Style thread-shaped, as long as the stamens, standing on the base of the germen; stigma knobbed. Seed one, oval, compressed.—Named on account of its supposed alchemical powers. 78.

1. *A. vulgaris*. *Common Lady's Mantle*. Leaves lobed, plaited.—Root large, somewhat woody, with long fibres: stems about six inches high, round, hairy, branched, leafy: root-leaves numerous, on long stalks, kidney-shaped: stem-leaves much smaller, on short stalks: flowers yellowish-green, in numerous corymbose clusters. Perennial: flowers in June and July: grows in pastures, and by the side of brooks, rivers, and pools: common. *Eng. Bot.* vol. ix. pl. 597. *Eng. Fl.* vol. i. p. 224. 260.

2. *A. alpina*. *Alpine Lady's Mantle*. Leaves with finger-like divisions, silky on the back.—Leaves divided into five or seven elliptical or inversely egg-shaped lobes, serrated towards the extremity, and covered with a beautiful silky down on the back. Perennial: flowers in July: grows on the high mountains of Wales, the north of England, and Scotland, as well as Ireland, by the sides of rills and streams: abundant. *Eng. Bot.* vol. iv. pl. 244. *Eng. Fl.* vol. i. p. 225. 261.

3. *A. arvensis*. *Parsley Piert*. Leaves flat, three-lobed, variously cut.—Root small, fibrous: stems three or four inches high, spreading, round, leafy: leaves alternate, on short stalks: flowers green: stamens generally four, sometimes one. Annual: flowers from May to August: grows in corn-fields and dry gravelly pastures: common. *Eng. Bot.* vol. xv. pl. 1011. *Eng. Fl.* vol. i. p. 225. 262.

## TETRAGYNIA.

16. *ILEX*. *HOLLY*.

Calyx inferior, one-leaved, four-toothed, permanent. Corolla wheel-shaped, of four elliptical segments or petals, much larger than the calyx. Filaments awl-shaped, shorter than the corolla; anthers small, two-lobed. Germen roundish. Styles none; stigmas four, obtuse, permanent. Berry globular, four-celled, each cell one-seeded. Seeds oblong, pointed.—Name used by the Romans. 79.

1. *I. Aquifolium*. *Common Holly*. Leaves egg-shaped, acute, thorny.—An evergreen tree, with smooth greyish bark, shining thorny leaves, whitish flowers, and scarlet berries. Birdlime is procured from the bark by maceration: the wood is used for veneering, and for making handles of knives, &c.; it makes an impenetrable fence, and bears cropping, nor is its verdure ever observed to suffer

from our most severe winters. Flowers in May: grows in bushy places: frequent. *Eng. Bot.* vol. vii. pl. 496. *Eng. Fl.* vol. i. p. 228. 263.

### 17. POTAMOGE'TON. POND-WEED.

Calyx none. Corolla inferior, of four roundish equal petals, furnished with a claw. Filaments very short, flat; anthers oblong, two-lobed. Germens four, superior, egg-shaped, acute. Style none; stigmas obtuse, permanent. Seeds four, roundish, bulging on one side, flattened on the other.—Named from *pota-mos*, a river, and *geiton*, a neighbour. 80.

1. *P. natans*. *Broad-leaved Pond-weed*. Upper leaves between oblong and egg-shaped, stalked, leathery, floating; lower leaves linear, membranous, sessile.—Stem round, much branched: upper leaves brownish-green: spikes simple, raised above the water: the floating leaves afford an agreeable shade to fish, and the roots are a favourite food of swans. Perennial: flowers in July and August: grows in pools, ditches, canals, and rivers: common. *Eng. Bot.* vol. xxvi. pl. 1822. *Eng. Fl.* vol. i. p. 229. 264.

2. *P. heterophyllus*. *Various-leaved Pond-weed*. Upper leaves elliptical, stalked, slightly leathery, floating; lower leaves lance-shaped, membranous, sessile.—Smaller than the last: upper leaves thinner: flower-stalks enlarged upwards: spikes dense. Perennial: flowers in July and August: grows in pools, ditches, canals, and rivers: common. *Eng. Bot.* vol. xviii. pl. 1285. *Eng. Fl.* vol. i. p. 229. 265.

3. *P. rufescens*. *Long-leaved Floating Pond-weed*. Upper leaves between egg-shaped and lance-shaped, stalked, leathery, floating; lower leaves lance-shaped, membranous, sessile.—Upper leaves less leathery, olive-coloured or reddish. Perennial: flowers in July and August: grows in ditches, ponds, and slow rivers. *Eng. Bot.* vol. xviii. pl. 1286. *Eng. Fl.* vol. i. p. 231. *P. fruitans*. 266.

4. *P. perfoliatus*. *Perfoliate Pond-weed*. Leaves heart-shaped, embracing the stem, uniform, all submersed.—Leaves all sessile, uniform, very pellucid, olive-coloured. Perennial: flowers in July and August: grows in slow rivers and ponds: common. *Eng. Bot.* vol. iii. pl. 168. *Eng. Fl.* vol. i. p. 230. 267.

5. *P. densus*. *Close-leaved Pond-weed*. Leaves opposite, egg-shaped, tapering to a point, crowded; stem forked; spike four-flowered.—Fruit-stalk very short, in the fork of the stem: all the leaves are submersed, and very close together. Perennial: flowers in July and August: grows in ditches, ponds, and slow rivers: common. *Eng. Bot.* vol. vi. pl. 397. *Eng. Fl.* vol. i. p. 231. 268.

6. *P. lucens*. *Shining Pond-weed*. Leaves between elliptical and lance-shaped, pointed, stalked, membranous, sessile; spike dense, many-flowered.—Leaves large, olive-green, with undulated margins, and beautifully veined: spike two inches long, of very numerous, green flowers. Perennial: flowers in June and July: grows in ditches, ponds, lakes, and slow rivers: common. *Eng. Bot.* vol. vi. pl. 376. *Eng. Fl.* vol. i. p. 232. 269.

7. *P. praelongus*. *Long-stalked Pond-weed*. Leaves oblong, obtuse, sessile; peduncles much elongated; spike cylindrical, many-

flowered.—Nearly as large as the preceding, the largest British species. Perennial: flowers in July: grows in pools and lakes in Scotland: rare. Berwickshire; Moss of Litie, Nairnshire; Lochleven. *Brit. Fl.* 4th ed. p. 70. 270.

8. *P. lanceolatus*. *Lance-shaped Pond-weed*. Leaves lance-shaped, membranous, tapering at the base, sessile; spikes dense, few-flowered.—Leaves marked with chain-like reticulations near the ribs: spike small, short. Perennial: flowers in July and August: grows in pools and slow streams: rare. *Eng. Bot.* vol. xxviii. pl. 1985. *Eng. Fl.* vol. i. p. 233. 271.

9. *P. crispus*. *Curled Pond-weed*. Leaves lance-shaped, three-nerved, waved, serrate, alternate, the upper opposite.—Leaves sessile, bright green: flowers yellowish-green, in short, loose spikes. Perennial: flowers in June and July: grows in ditches, pools, and rivulets: common. *Eng. Bot.* vol. xv. pl. 1012. *Eng. Fl.* vol. i. p. 233. 272.

10. *P. gramineus*. *Grassy Pond-weed*. Leaves linear, tapering towards the base, alternate, sessile; stem round, forked; flower-stalks little longer than the spikes.—Leaves bright-green, grassy-looking: spikes egg-shaped, dense. Perennial: flowers in July: grows in ditches and streams: rare. *Eng. Bot.* vol. xxxii. pl. 2253. *Eng. Fl.* vol. i. p. 235. 273.

11. *P. pusillus*. *Small Pond-weed*. Leaves linear, three-ribbed, opposite and alternate, spreading at the base; stem round; flower-stalks many times longer than the spikes.—Leaves very narrow, pointed, much expanded at the base: spikes nearly globular. Perennial: flowers in July: grows in ponds, ditches, and slow streams: not uncommon. *Eng. Bot.* vol. iii. pl. 215. *Eng. Fl.* vol. i. p. 236. A variety with broader leaves and interrupted spike is the *P. compressus*, *Flat-stalked Pond-weed*. *Eng. Bot.* vol. vi. pl. 418. *Eng. Fl.* vol. i. p. 234. 274.

12. *P. pectinatus*. *Fennel-leaved Pond-weed*. Leaves bristle-shaped, one-ribbed, parallel, closely set in two rows; spikes interrupted.—Leaves alternate, bright-green: spikes few, with interruptions. Perennial: flowers in July: grows in ditches, pools, and rivers: rare. *Eng. Bot.* vol. v. pl. 323. *Eng. Fl.* vol. i. p. 237. 275.

13. *P. acutifolius*. *Sharp-leaved Pond-weed*. Leaves linear, taper-pointed, with three principal and numerous close parallel intermediate nerves, occupying the whole surface: spikes oval, compact, about equal in length with the short panicle. Perennial: flowers in July. Found by Mr. Borrer, in marsh-ditches at Amberley, Henfield, and Lewes, Sussex. *Eng. Bot. Suppl.* pl. 2609. *Brit. Fl.* 4th ed. p. 69. 276.

14. *P. zosteraefolius*. *Grass-wrack-like Pond-weed*. Leaves broadly linear, acute, with three principal and numerous close parallel intermediate nerves, occupying the whole surface: spikes cylindrical, upon long peduncles. Perennial: flowers in July: grows in ditches: rare. Rivulet at Hovingham, Yorkshire; Lakes of Rescobie and Forfar. *Eng. Bot. Suppl.* pl. 2685. *P. cuspidatus*. *Eng. Fl.* vol. i. p. 234. 277.

#### 18. RUPPIA. TASSEL-GRASS.

Calyx none. Corolla none. Anthers four, sessile, equal, roundish. Germens four, egg-shaped, close together. Styles

none; stigmas obtuse. Seeds four, egg-shaped, obliquely pointed, each elevated on a long stalk.—Named after *H. B. Ruppis*. 81.

1. *R. maritima*. *Sea Tassel-grass*. The whole plant submersed. Roots fibrous, tufted; stem long, slender, round, much branched, leafy.—Leaves linear, alternate: spikes two-flowered, on short axillar stalks. Perennial: flowers in August and September: grows in salt-water, ditches, and pools: not uncommon. *Eng. Bot.* vol. ii. pl. 136. *Eng. Fl.* vol. i. p. 238. 278.

### 19. SAGINÆ. PEARL-WORT.

Calyx inferior, four-leaved. Petals four, egg-shaped, entire, spreading, shorter than the calyx; sometimes wanting. Filaments hair-like, ascending, shorter than the calyx; anthers roundish, two-lobed. Germen superior, egg-shaped. Styles awl-shaped, short, spreading; stigmas obtuse, downy. Capsule egg-shaped, one-celled, four-valved. Seeds numerous, very small, stalked, and attached to a central receptacle.—Name signifies fattening food. 82.

1. *S. procumbens*. *Procumbent Pearl-wort*. Stems procumbent; leaves minutely pointed; petals much shorter than the calyx.—Stems from two to four inches long, spreading, leafy: leaves linear, three-ribbed, smooth: flowers drooping: petals white. Perennial: flowers in June and July: grows in dry, gravelly, or sandy soil: common. *Eng. Bot.* vol. xiii. pl. 880. *Eng. Fl.* vol. i. p. 239. 279.

2. *S. maritima*. *Sea Pearl-wort*. Stems nearly erect, smooth; leaves blunt; petals none.—Stems two or three inches high, spreading at the bottom, branched, leafy: leaves fleshy, linear, smooth. Annual: flowers from May to August: grows on the sea-coast: not uncommon. *Eng. Bot.* vol. xxxi. pl. 2195. *Eng. Fl.* vol. i. p. 240. 280.

3. *S. apétala*. *Small Annual Pearl-wort*. Stems nearly erect, hairy; leaves bristle-pointed, fringed; petals generally wanting.—Stems two or three inches long, spreading at the base, leafy, covered with spreading hairs: leaves linear, tipped with a bristle, and fringed at the edges: petals sometimes present, very short, white, generally wanting. Annual: flowers from May to August: grows in dry, gravelly, or sandy places, on walls, rocks, &c.: common. *Eng. Bot.* vol. xiii. pl. 881. *Eng. Fl.* vol. i. p. 240. 281.

### 20. MÆNCHIA. MÆNCHIA.

Calyx inferior, four-leaved. Petals four, lance-shaped, pointed, converging, permanent. Filaments hair-like, ascending, shorter than the petals; anthers roundish, two-lobed. Germen superior, egg-shaped. Styles very short, spreading; stigmas obtuse, downy. Capsule cylindrical, one-celled, one-valved. Seeds numerous, kidney-shaped, stalked and attached to a common receptacle.—Named after *Conrad Mænch*. 83.

1. *M. erecta*. *Upright Mænchia, Least Stichwort*.—Root fibrous: stems erect, three or four inches high, round, leafy: leaves opposite,

sessile, between linear and lance-shaped: petals white. Annual: flowers in May: grows in moist gravelly places: frequent. *Eng. Bot.* vol. ix. pl. 609. *Eng. Fl.* vol. i. p. 241. 282.

## 21. TILLÆA. TILLÆA.

Calyx inferior, of one leaf, with three or four large, egg-shaped segments. Petals three or four, egg-shaped, acute, rather smaller than the calyx. Filaments three or four, simple, awl-shaped, erect, shorter than the corolla; anthers roundish, two-celled. Germens three or four, egg-shaped, superior. Styles very short; stigmas obtuse. Capsules oblong, pointed, reflected, one-celled, two-valved. Seeds egg-shaped; two in each capsule.—Named after the Italian botanist *Tilli*. 84.

1. *T. muscosa*. Mossy Tillæa, or Red-shanks. Stems procumbent; flowers sessile, three-cleft.—From one to two inches high: root fibrous: stems at first nearly erect, soon becoming procumbent, round, leafy, red: leaves oval, opposite, succulent, reddish, smooth: petals white, tinged with red. Perennial: flowers in May and June: grows on sandy heaths in Norfolk and Suffolk: common. *Eng. Bot.* vol. ii. pl. 116. *Eng. Fl.* vol. i. p. 242. 283.

## 22. RADIOLA. ALL-SEED.

Calyx inferior, of one leaf, with four three-cleft segments. Petals four, inversely egg-shaped, as long as the calyx. Filaments four, awl-shaped, as long as the petals; anthers roundish, two-lobed. Germen superior, roundish, four-lobed. Styles four, hair-like, very short, permanent; stigmas knobbed. Capsule roundish, eight-valved, eight-celled. Seeds solitary, egg-shaped, polished.—Named from *radius*, a ray. 85.

1. *R. Millegrana*. All-seed.—From one to two inches high: root fibrous: stem erect, repeatedly forked, leafy: leaves egg-shaped, sessile, opposite: flowers axillar, stalked, white. Annual: flowers in July and August: grows in gravelly and sandy soil, on heaths, &c.: not common. *Eng. Bot.* vol. xiii. pl. 893. *Eng. Fl.* vol. i. p. 243. 284.

## CLASS V. PENTANDRIA.

*Plants bearing Flowers with Five Stamens.*

## Order I. MONOGYNIA. One Pistil.

\* *Flowers of one petal, inferior, with two or four naked seeds.*

10. E'CHIUM. Corolla irregular, its throat dilated and naked Stigma deeply cleft.

5. PULMONA'RIA. Corolla funnel-shaped, its throat naked Calyx prismatic, five-cleft.

2. LITHOSPERMUM. *Corolla* funnel-shaped, its throat naked.  
*Calyx* with five deep clefts.
6. SYMPHYTUM. *Corolla* closed with awl-shaped valves; its limb bell-shaped.
7. BORAGO. *Corolla* closed with awl-shaped or notched valves; its limb wheel-shaped.
9. LYCOPSIS. *Corolla* closed with concave obtuse valves; funnel-shaped, with a bent tube. *Seeds* concave at the base.
3. ANCHUSA. *Corolla* closed with concave obtuse valves; funnel-shaped, with the tube straight. *Seeds* concave at the base.
8. ASPERUGO. *Corolla* closed with concave obtuse valves; salver-shaped. *Calyx* of the fruit compressed, with jagged, parallel lobes.
9. CYNOGLOSSUM. *Corolla* half-closed with rounded valves; funnel-shaped. *Seeds* depressed, imperforate, borne upon a central column.
1. MYOSOTIS. *Corolla* half-closed with rounded valves; salver-shaped; lobes obtuse. *Seeds* perforated at the base, borne by the calyx.

\*\* *Flowers of one petal, inferior, with numerous seeds inclosed in a seed-vessel.*

17. ANAGALLIS. *Capsule* one-celled, bursting all round. *Corolla* wheel-shaped. *Stamens* hairy.
16. LYSIMACHIA. *Capsule* one-celled, ten-valved. *Corolla* wheel-shaped.
12. CYCLAMEN. *Capsule* one-celled, pulpy within. *Corolla* wheel-shaped, reflected. *Stigma* acute.
11. PRIMULA. *Capsule* one-celled, opening with ten teeth. *Corolla* salver-shaped, with a cylindrical tube, and open throat. *Stigma* globular.
14. HOTTONIA. *Capsule* one-celled, opening with five teeth. *Corolla* salver-shaped. *Stamens* from the margin of the tube. *Stigma* globular.
13. MENYANTHES. *Capsule* one-celled. *Corolla* funnel-shaped, hairy. *Stigma* divided.
15. VILLARSA. *Capsule* one-celled. *Corolla* wheel-shaped, hairy. *Stigma* divided.
31. ERYTHRAEA. *Capsule* incompletely two-celled. *Corolla* salver-shaped. *Anthers* after flowering spirally twisted.
28. HYOSCYAMUS. *Capsule* two-celled, with a lid. *Corolla* funnel-shaped. *Stigma* knobbed.
27. VERBASCUM. *Capsule* two-celled. *Corolla* wheel-shaped, irregular. *Stigma* obtuse. *Stamens* declining.
19. CONVOLVULUS. *Capsule* two-celled, each cell two-seeded. *Corolla* bell-shaped, plaited. *Stigma* cleft.
20. POLEMONIUM. *Capsule* three-celled. *Corolla* deeply five-cleft, the tube closed by five valves. *Stamens* inserted upon the valves.
18. AZALEA. *Capsule* five-celled. *Corolla* bell-shaped. *Stamens* inserted upon the receptacle.
41. VINCA. *Follicles* two, erect. *Corolla* salver-shaped, oblique. *Seeds* simple.
30. SOLANUM. *Berry* two-celled. *Capsule* wheel-shaped. *Anthers* with two pores.

29. A'TROPA. *Berry* two-celled. *Corolla* bell-shaped. *Stamens* distant. *Anthers* heart-shaped.

\*\*\* *Flowers of one petal, superior.*

32. SA'MOLUS. *Capsule* one-celled, with five recurved valves. *Corolla* funnel-shaped, five-cleft, with scales between the segments.
23. JAS'ONE. *Capsule* two-celled, opening at the top. *Corolla* wheel-shaped, deeply five-cleft. *Stigma* club-shaped. *Anthers* united at the base.
22. PIHYTEUMA. *Capsule* two- or three-celled, opening laterally. *Corolla* wheel-shaped, deeply five-cleft. *Stigma* two- or three-cleft.
24. LOBE'LIA. *Capsule* two- or three-celled. *Corolla* irregular, split longitudinally on the upper side. *Stigma* knobbed, hairy.
21. CAMPA'NULA. *Capsule* two- or three-celled, opening with lateral pores. *Corolla* bell-shaped. *Stigma* two- or three-cleft, revolute.
33. IONIC'ERA. *Berry* with one or more cells, each cell many-seeded. *Corolla* irregular.

(*Rubia peregrina.*)

\*\*\*\* *Flowers of five petals, inferior.*

34. RHA'MNUS. *Berry* three-celled, roundish. *Calyx* tubular, bearing the petals.
35. EUO'NYMUS. *Capsule* of four or five cells. *Seeds* with a fleshy coat. *Calyx* flat.
25. IMPA'TIENS. *Capsule* five-celled, five-valved. *Corolla* irregular. *Calyx* of two leaves.
26. VI'OLA. *Capsule* one-celled, three-valved. *Corolla* irregular, spurred. *Calyx* of five leaves, extended at the base.

\*\*\*\*\* *Flowers of five petals, superior.*

36. RI'BES. *Berry* many-seeded. *Calyx* bearing the petals. *Style* cleft.
37. HE'DERA. *Berry* five-seeded. *Calyx* surrounding the germen. *Style* simple.

\*\*\*\*\* *Flowers without petals.*

39. GLAUX. *Capsule* superior, five-seeded. *Calyx* of one leaf, coloured.
38. ILLE'CEBRUM. *Capsule* superior, one-seeded. *Calyx* of five leaves, cartilaginous.
40. THE'SIUM. *Drupe* inferior, dry. *Calyx* leathery, five-cleft, bearing the stamens.

## Order II. DIGYNIA. *Two Pistils.*

\* *Flowers of one petal, inferior.*

48. GENTIA'NA. *Capsule* one-celled. *Corolla* tubular at the base, bell-shaped or funnel-shaped, destitute of nectariferous pores.
47. CUS'CUTA. *Capsule* two-celled, bursting all around. *Corolla* bell-shaped.

\*\* *Flowers without a corolla. Seed solitary.*

44. BE'TA. *Seed* kidney-shaped, imbedded in the fleshy calyx.



43. **CHENOPODIUM.** *Seed* lenticular, superior to the five-left, persistent *calyx*.  
 45. **SAL'SOLA.** *Capsule* closed, imbedded in the fleshy *calyx*.  
*Seed* with a spiral embryo.  
 42. **HERNIA'RIA.** *Capsule* closed, membranous, invested by the *calyx*. *Stamens* with five imperfect filaments.  
 46. **UL'MUS.** *Capsule* closed, membranous, compressed, margined, superior.

(*Polygonum amphibium.*)

\*\*\* *Flowers of five petals, superior, two-seeded.*

- A. *Umbels and Umbellules furnished with involucre consisting of bracteas.*  
 49. **ERYNGIUM.** *Fruit* egg-shaped, covered with straight bristles. *Petals* oblong, equal, inflected, undivided. *Flowers* aggregate, forming a head.  
 50. **HYDROCO'TYLE.** *Fruit* round, compressed laterally, striated. *Petals* egg-shaped, acute, equal. *Flowers* in a simple umbel.  
 51. **SANT'CU'LA.** *Fruit* egg-shaped, covered with hooked bristles. *Petals* lance-shaped, inflected, nearly equal. *Umbellules* clustered, the central flowers destitute of stamens and pistils.  
 82. **HERA'CLEUM.** *Fruit* elliptical, compressed, striated. *Petals* inversely heart-shaped, radiant. *Styles* pyramidal at the base.  
 65. **CENA'THE.** *Fruit* oblong, somewhat spongy, ribbed. *Petals* inversely heart-shaped, radiant, very unequal. *Styles* slender, enlarged at the base.  
 52. **CAU'CALIS.** *Fruit* oblong, compressed transversely. *Seeds* with four rows of ascending, awl-shaped, hooked prickles. *Petals* inversely heart-shaped, unequal.  
 58. **DAUCUS.** *Fruit* oblong, compressed transversely. *Seeds* with four rows of flat prickles and rough intermediate ribs. *Petals* inversely heart-shaped, unequal.  
 80. **PEUCE'DANUM.** *Fruit* nearly orbicular, crowned with the calyx and styles. *Petals* inversely heart-shaped, all nearly equal. *Styles* very short, greatly dilated at the base.  
 64. **CONI'UM.** *Fruit* egg-shaped, with ten acute ribs. *Petals* inversely heart-shaped, slightly unequal. *Styles* a little tumid at the base.  
 59. **BUNI'UM.** *Fruit* egg-shaped, strong ribbed. *Petals* inversely heart-shaped, equal. *Styles* awl-shaped, much swelled at the base.  
 60. **SI'UM.** *Fruit* egg-shaped or orbicular, ribbed. *Petals* inversely heart-shaped, or egg-shaped, equal. *Styles* cylindrical, swelling a little at the base.  
 61. **SISON.** *Fruit* egg-shaped or nearly orbicular, ribbed. *Petals* elliptical or inversely heart-shaped, involute at the point, equal. *Styles* very short and thick.  
 79. **SELINUM.** *Fruit* elliptical, ribbed, crowned with the calyx and style. *Petals* inversely heart-shaped, involute, equal. *Styles* with a tumid hemispherical base.  
 66. **CRITH'MUM.** *Fruit* elliptical, ribbed, crowned. *Petals* elliptical, acute, incurved, equal. *Styles* short and thick, with swelled base.  
 72. **LIGUS'TICUM.** *Fruit* oblong, winged. *Petals* elliptical, flattish, contracted at both ends, equal. *Styles* thick, tumid at the base.

76. *MEUM*. Fruit oblong, ribbed. *Petals* inversely egg-shaped with an inflected point, equal. *Styles* swelled at the base.
77. *CNI'DIUM*. Fruit egg-shaped, acute, with sharp ribs. *Petals* inversely heart-shaped or egg-shaped, equal. *Styles* hemispherical at the base.
78. *BUPLEURUM*. Fruit egg-shaped, obtuse, with sharp ribs. *Petals* wedge-shaped, very short, involute, equal. *Styles* very short, swelled at the base.
75. *ATHAMAN'TA*. Fruit egg-shaped, ribbed, hairy. *Petals* inversely heart-shaped, broadly pointed, equal. *Styles* short, with a tumid base.
83. *TORDYLIUM*. Fruit nearly orbicular, striated. *Petals* inversely heart-shaped, with an inflected point, unequal. *Styles* thread-shaped, swelled at the base.

B. *Umbellules furnished with involucrial bracteas, umbels naked.*

62. *CICUTTA*. Fruit nearly orbicular, with six double ribs. *Petals* egg-shaped, or heart-shaped, nearly equal. *Styles* slightly swelled at the base.
70. *IMPERATORIA*. Fruit orbicular, with six ribs. *Petals* inversely heart-shaped, rather irregular. *Styles* egg-shaped and swelled at the base.
71. *ANGELICA*. Fruit roundish, with three wings on each side. *Petals* lance-shaped, equal, flattish, with the point inflected. *Styles* short, erect, broad, and swelled at the base.
54. *ANTHRIS'CUS*. Fruit egg-shaped, covered with short incurved bristles. *Petals* inversely heart-shaped, equal. *Styles* awl-shaped, tumid at the base.
53. *TORILIS*. Fruit egg-shaped, ribless, covered with ascending bristles. *Styles* awl-shaped, short, very broad at the base.
63. *ÆTHUSA*. Fruit egg-shaped, with ten rounded ribs. *Petals* inversely heart-shaped, deeply-lobed, with an acute, inflected point. *Styles* short, swelled and egg-shaped at the base.
57. *CHÆROPHYLLUM*. Fruit smooth, ribless. *Petals* inversely heart-shaped, with an inflected point, somewhat unequal. *Styles* short, awl-shaped, tumid at the base.
56. *MY'RRHIS*. Fruit narrow lance-shaped, deeply-furrowed, smooth. *Petals* uniform, inversely heart-shaped, with an inflected taper point. *Styles* awl-shaped, very tumid at the base.
55. *SCA'NDIX*. Fruit elliptical, ribbed, somewhat bristly. *Petals* unequal, undivided, tapering at the base. *Styles* short, swelled at the base.

C. *Umbels and Umbellules without bracteas.*

68. *A'PIUM*. Fruit roundish, ribbed. *Petals* roundish, with an inflected point, equal. *Styles* swelled at the base.
76. *PIMPIN'ELLA*. Fruit roundish, ribbed. *Petals* inversely heart-shaped, nearly equal. *Styles* thread-like, as long as the fruit.
67. *SMY'RNium*. Fruit roundish, ribbed. *Petals* lance-shaped, incurved, equal. *Styles* swelled and depressed at the base.
81. *PASTINACA*. Fruit broadly elliptical, ribbed. *Petals* broadly lance-shaped, involute, equal. *Styles* very short, erect, with knobbed stigmas.

43. **CHENOPODIUM.** *Seed* lenticular, superior to the five-left, persistent *calyx*.  
 45. **SAL/SOLA.** *Capsule* closed, imbedded in the fleshy *calyx*. *Seed* with a spiral embryo.  
 42. **HERNIA/RIA.** *Capsule* closed, membranous, invested by the *calyx*. *Stamens* with five imperfect filaments.  
 46. **ULMUS.** *Capsule*, closed, membranous, compressed, margined, superior.

(*Polygonum amphibium*.)

\*\*\* *Flowers of five petals, superior, two-seeded.*

- A. *Umbels and Umbellules furnished with involucre consisting of bracteas.*  
 49. **ERYN/GIUM.** *Fruit* egg-shaped, covered with straight bristles. *Petals* oblong, equal, inflected, undivided. *Flowers* aggregate, forming a head.  
 50. **HYDROCO/TYLE.** *Fruit* round, compressed laterally, striated. *Petals* egg-shaped, acute, equal. *Flowers* in a simple umbel.  
 51. **SANT/CULA.** *Fruit* egg-shaped, covered with hooked bristles. *Petals* lance-shaped, inflected, nearly equal. *Umbellules* clustered, the central flowers destitute of stamens and pistils.  
 82. **HERA/CLEUM.** *Fruit* elliptical, compressed, striated. *Petals* inversely heart-shaped, radiant. *Styles* pyramidal at the base.  
 65. **CENA/NTHE.** *Fruit* oblong, somewhat spongy, ribbed. *Petals* inversely heart-shaped, radiant, very unequal. *Styles* slender, enlarged at the base.  
 52. **CAU/CALIS.** *Fruit* oblong, compressed transversely. *Seeds* with four rows of ascending, awl-shaped, hooked prickles. *Petals* inversely heart-shaped, unequal.  
 58. **DAU/CUS.** *Fruit* oblong, compressed transversely. *Seeds* with four rows of flat prickles and rough intermediate ribs. *Petals* inversely heart-shaped, unequal.  
 80. **PEUCE/DANUM.** *Fruit* nearly orbicular, crowned with the calyx and styles. *Petals* inversely heart-shaped, all nearly equal. *Styles* very short, greatly dilated at the base.  
 64. **CONI/UM.** *Fruit* egg-shaped, with ten acute ribs. *Petals* inversely heart-shaped, slightly unequal. *Styles* a little tumid at the base.  
 59. **BUN/NIUM.** *Fruit* egg-shaped, strong ribbed. *Petals* inversely heart-shaped, equal. *Styles* awl-shaped, much swelled at the base.  
 60. **SI/UM.** *Fruit* egg-shaped or orbicular, ribbed. *Petals* inversely heart-shaped, or egg-shaped, equal. *Styles* cylindrical, swelling a little at the base.  
 61. **SISON.** *Fruit* egg-shaped or nearly orbicular, ribbed. *Petals* elliptical or inversely heart-shaped, involute at the point, equal. *Styles* very short and thick.  
 79. **SEL/NIUM.** *Fruit* elliptical, ribbed, crowned with the calyx and style. *Petals* inversely heart-shaped, involute, equal. *Styles* with a tumid hemispherical base.  
 66. **CRITH/MUM.** *Fruit* elliptical, ribbed, crowned. *Petals* elliptical, acute, incurved, equal. *Styles* short and thick, with swelled base.  
 72. **LIGUS/TICUM.** *Fruit* oblong, winged. *Petals* elliptical, flattish, contracted at both ends, equal. *Styles* thick, tumid at the base.

76. *MEUM*. Fruit oblong, ribbed. *Petals* inversely egg-shaped with an inflected point, equal. *Styles* swelled at the base.
77. *CNIDIUM*. Fruit egg-shaped, acute, with sharp ribs. *Petals* inversely heart-shaped or egg-shaped, equal. *Styles* hemispherical at the base.
78. *BUPLEURUM*. Fruit egg-shaped, obtuse, with sharp ribs. *Petals* wedge-shaped, very short, involute, equal. *Styles* very short, swelled at the base.
75. *ATHAMANTA*. Fruit egg-shaped, ribbed, hairy. *Petals* inversely heart-shaped, broadly pointed, equal. *Styles* short, with a tumid base.
83. *TORDYLIUM*. Fruit nearly orbicular, striated. *Petals* inversely heart-shaped, with an inflected point, unequal. *Styles* thread-shaped, swelled at the base.

B. *Umbellules furnished with involucreal bracteas, umbels naked.*

62. *CICUTA*. Fruit nearly orbicular, with six double ribs. *Petals* egg-shaped, or heart-shaped, nearly equal. *Styles* slightly swelled at the base.
70. *IMPERATORIA*. Fruit orbicular, with six ribs. *Petals* inversely heart-shaped, rather irregular. *Styles* egg-shaped and swelled at the base.
71. *ANGELICA*. Fruit roundish, with three wings on each side. *Petals* lance-shaped, equal, flattish, with the point inflected. *Styles* short, erect, broad, and swelled at the base.
54. *ANTHRISCUS*. Fruit egg-shaped, covered with short incurved bristles. *Petals* inversely heart-shaped, equal. *Styles* awl-shaped, tumid at the base.
53. *TORILIS*. Fruit egg-shaped, ribless, covered with ascending bristles. *Styles* awl-shaped, short, very broad at the base.
63. *ÆTHUSA*. Fruit egg-shaped, with ten rounded ribs. *Petals* inversely heart-shaped, deeply-lobed, with an acute, inflected point. *Styles* short, swelled and egg-shaped at the base.
57. *CHÆROPHYLLUM*. Fruit smooth, ribless. *Petals* inversely heart-shaped, with an inflected point, somewhat unequal. *Styles* short, awl-shaped, tumid at the base.
56. *MYRRHIS*. Fruit narrow lance-shaped, deeply-furrowed, smooth. *Petals* uniform, inversely heart-shaped, with an inflected taper point. *Styles* awl-shaped, very tumid at the base.
55. *SCANDIX*. Fruit elliptical, ribbed, somewhat bristly. *Petals* unequal, undivided, tapering at the base, *Styles* short, swelled at the base.

C. *Umbels and Umbellules without bracteas.*

68. *APIUM*. Fruit roundish, ribbed. *Petals* roundish, with an inflected point, equal. *Styles* swelled at the base.
76. *PIMPINELLA*. Fruit roundish, ribbed. *Petals* inversely heart-shaped, nearly equal. *Styles* thread-like, as long as the fruit.
67. *SMYRNIUM*. Fruit roundish, ribbed. *Petals* lance-shaped, incurved, equal. *Styles* swelled and depressed at the base.
81. *PASTINACA*. Fruit broadly elliptical, ribbed. *Petals* broadly lance-shaped, involute, equal. *Styles* very short, erect, with knobbed stigmas.

69. *ÆGOPodium*. Fruit elliptical, ribbed. Petals inversely heart-shaped, unequal. Styles egg-shaped at the base.  
 74. *CA'rum*. Fruit oblong, ribbed. Petals, inversely heart-shaped, unequal. Styles swelled at the base, subsequently elongated.

### Order III. TRIGYNIA. Three Pistils.

\* Flowers superior.

84. *VIBURNUM*. Corolla five-cleft. Berry one-seeded.  
 85. *SAMBU'cus*. Corolla five-cleft. Berry two-seeded.

\*\* Flowers inferior.

88. *CORRIGIOLA*. Petals five. Seed one, naked, triangular.  
 86. *STAPHYLEA*. Petals five. Capsules two or three, inflated.  
 87. *TAMARIX*. Petals five. Capsule three-valved. Seeds numerous, downy.

(*Chenopodium*. *Stellaria media*.)

### Order IV. TETRAGYNIA. Four Pistils.

89. *PARNA'SSIA*. Petals five. Nectaries five, fringed with bristles bearing globes. Capsule four-valved.

### Order V. PENTAGYNIA. Five Pistils.

91. *LINUM*. Petals five. Capsule ten-celled.  
 92. *SIBBALDIA*. Petals five. Seeds five, naked. Calyx ten-cleft.  
 90. *STATICE*. Petals five. Seed one, covered with the base of the calyx.

(*Spergula*. *Cerastium*.)

### Order VI. HEXAGYNIA. Six Pistils.

93. *DRO'SERA*. Petals five. Capsule three-valved, many-seeded.

### Order VII. POLYGYNIA. Numerous Pistils.

94. *MYOSURUS*. Petals five, with tubular honey-bearing claws. Seeds naked. Calyx spurred at the base.

(*Ranunculus hederaceus*.)

## PENTANDRIA—MONOGYNIA.

### 1. MYOSOTIS. SCORPION-GRASS.

Calyx inferior, of one leaf, deeply five-cleft; segments acute, equal. Corolla of one petal, salver-shaped; mouth half-closed with five small valves. Filaments very short; anthers small, oblong. Germens four. Style thread-shaped, central, as long as the tube; stigma obtuse. Seeds egg-shaped, pointed, smooth.—Named from *Mys*, a mouse, and *otis*, an ear. 86.

1. *M. palustris*. Great Water Scorpion-grass. Forget-me-not. Calyx funnel-shaped, with short, broad segments; leaves oblong, roughish, with close-pressed bristles; root creeping.—Roots very long, creeping. stem from six to twelve inches high: clusters many-flowered: two or three together: limb of the corolla sky-blue, the valve of the mouth yellow. Perennial: flowers in

June and July: grows in marshy places and ditches: common. *Eng. Bot.* vol. xxviii. pl. 1973. *Eng. Fl.* vol. i. p. 250. 285.

2. *M. cæspitosa*. *Tufted Water Scorpion-grass*. Calyx funnel-shaped, with broad, spreading segments; leaves covered with erect bristles; root fibrous.—Stems about a foot high, rooting at the base: corolla paler and smaller than in the last species: the whole plant weaker. Perennial: flowers in June and July: grows in watery places: common. *Eng. Bot. Suppl.* pl. 2661. *Eng. Fl.* vol. i. p. 251. 286.

3. *M. alpes'tris*. *Rock Scorpion-grass*. Calyx deeply five-cleft, covered with erect hairs; leaves hairy, root-leaves half the length of the stalks; root fibrous.—Stems from three to five inches high: clusters dense: corolla large and blue. Perennial: flowers in July and August: grows on Ben Lawers and other Highland mountains: rare. *Eng. Bot.* vol. xxxvi. pl. 2559. *Eng. Fl.* vol. i. p. 253. 287.

4. *M. sylvatica*. *Wood Scorpion-grass*. Fruit smooth; calyx deeply five-cleft, with spreading hooked bristles, when in fruit egg-shaped, shorter than the spreading flower-stalks; limb of the corolla flat, longer than the tube; root-leaves on short dilated stalks.—Perennial: flowers in June and July: grows in dry shady places: common. *Eng. Bot. Suppl.* pl. 2630. *Brit. Fl.* 4th ed. p. 91. 288.

5. *M. arvensis*. *Common Field Scorpion-grass*. Fruit smooth; calyx cleft half-way, with spreading hooked bristles, when in fruit egg-shaped, shorter than the spreading flower-stalks; limb of the corolla concave, equal in length to the tube.—Annual: flowers through the summer and part of autumn: grows in cultivated ground, and in general in loose soil: common. *Eng. Bot. Suppl.* pl. 2629. *Brit. Fl.* p. 91. 289.

6. *M. collina*. *Early Field Scorpion-grass*. Fruit smooth; calyx deeply cleft, with spreading hooked bristles, when in fruit bulging at the base, open, equal in length to the spreading flower-stalks; limb of the corolla concave, shorter than the tube; one remote axillar flower.—Annual: flowers in April and May: grows in dry pastures, sandy or gravelly open soil, and on wall tops: common. *Eng. Bot. Suppl.* pl. 2629. 290.

7. *M. versicolor*. *Yellow and Blue Scorpion-grass*. Calyx deeply five-cleft, covered with spreading hairs; leaves narrow, oblong, hairy; clusters long, stalked, without a remote flower.—Root fibrous: stem three or four inches high: corolla small, blue with a yellow throat. Annual: flowers in June and July: grows in dry waste places, on walls, &c.: common. *Eng. Bot.* pl. 480. fig. 1. *Eng. Fl.* vol. i. p. 254. 291.

## 2. LITHOSPERMUM. GROMWELL.

Calyx inferior, of one leaf, oblong, deeply five-cleft; segments acute, equal, nearly erect. Corolla of one petal, funnel-shaped; tube open. Filaments very short; anthers oblong, concealed in the tube. Germens four. Style thread-shaped, shorter than the tube; stigma obtuse, notched. Seeds four, egg-shaped, pointed, hard.—Named from *lithos*, a stone, and *sperma*, seed. 87.

1. *L. officinale*. *Common Gromwell*. *Graymill*. Corolla little longer than the calyx; leaves lance-shaped, rather acute.—Root

tapering, whitish: stem about two feet high: leaves greyish-green: corolla pale-yellow. Perennial: flowers in May: grows in dry gravelly places: not common. *Eng. Bot.* vol. ii. pl. 134. *Eng. Fl.* vol. i. p. 256. 292.

2. *L. arvense*. *Corn Gromwell*. Corolla little longer than the calyx; leaves narrow, lance-shaped, obtuse.—Root tapering, with a purplish-red bark: stem about a foot high: leaves bright-green: corolla white. Annual: flowers in May and June: grows in corn-fields and waste places: common. *Eng. Bot.* vol. ii. pl. 123. *Eng. Fl.* vol. i. p. 256. 293.

3. *L. purpureo-cæruleum*. *Creeping or Purple Gromwell*. Corolla much longer than the calyx; leaves lance-shaped.—Root woody, blackish: stems several, from twelve to eighteen inches long: some barren, creeping, and rooting: others erect: corolla large, violet-blue. Perennial: flowers in April and May: grows in mountainous and woody pastures, in Wales and the south of England: rare. *Eng. Bot.* vol. ii. pl. 117. *Eng. Fl.* vol. i. p. 257. 294.

4. *L. maritimum*. *Sea Gromwell*. *Sea Bugloss*. Leaves egg-shaped, sprinkled with callous dots; stems all procumbent.—Root fleshy, tapering: stems numerous, from one to two feet long: leaves somewhat fleshy, smooth: flowers in terminal leafy clusters: corolla twice as long as the calyx, of a beautiful purple. Perennial: flowers in July and August: grows on gravelly beaches on the sea-shore, in the north of England, in Ireland, and in Scotland. *Eng. Bot.* vol. vi. pl. 368. *Eng. Fl.* vol. i. p. 287. 295.

### 3. ANCHUSA. ALKANET.

Calyx inferior, of one leaf, cylindrical, deeply five-cleft; segments acute. Corolla of one petal, funnel-shaped; tube straight, tumid below; mouth closed with five erect, obtuse, hairy, converging valves. Filaments very short; anthers oblong, concealed by the valves. Germens four, roundish. Style cylindrical, short. Stigma cleft; seeds four, roundish, wrinkled, each hollowed out at the base.—Name from *ancho*, to choke. 88.

1. *A. officinalis*. *Common Alkanet*. Spikes crowded, unilateral; leaves lance-shaped.—Stems from one to two feet high, rough with strong hairs: corolla deep purple. Perennial: flowers in June and July: grows in waste ground: rare, and not indigenous. Links at Hartley-pans, Northumberland; and near Glasgow. *Eng. Bot.* 296.

2. *A. sempervirens*. *Ever-green Alkanet*. Flower-stalks axillar, each bearing two dense spikes, with an intermediate flower: leaves egg-shaped, acute.—Stems from twelve to eighteen inches high: root-leaves large, remaining green all the winter, stalked, the rest sessile, all egg-shaped: limb of the corolla brilliant sky-blue, the valves white and downy. Perennial: flowers in May and June: grows by roads and among rubbish: not very common, and probably not indigenous. *Eng. Bot.* vol. i. pl. 45. *Eng. Fl.* vol. i. p. 259. 297.

### 4. CYNOGLOSSUM. HOUND'S-TONGUE.

Calyx inferior, of one leaf, deeply five-cleft; segments slightly acute. Corolla of one petal, funnel-shaped, little longer than the calyx; tube cylindrical, short; mouth half-closed with five hori-

zontal valves. Filaments short; anthers roundish. Germens four, depressed. Style awl-shaped, central, longish; stigma small, notched. Seeds four, roundish, imperforate at the base, attached to a central receptacle.—Name from *cyon*, a dog, and *glossa*, a tongue. 89.

1. *C. officinale*. *Common Hound's-tongue*. Stamens shorter than the corolla; stem-leaves broadly lance-shaped, sessile, downy.—Whole plant dull-green, downy and soft: stem two feet high: root-leaves large, tapering at both ends: clusters terminal, panicled: corolla dull-crimson. This plant is suspected of possessing narcotic properties: its smell is very disagreeable, and greatly resembles that of mice. Biennial: flowers in May and June: grows by road-sides and among rubbish: common. *Eng. Bot.* vol. xxiii. pl. 1642. *Eng. Fl.* vol. i. p. 261. 298.

2. *C. sylvaticum*. *Green-leaved Hound's-tongue*. Stamens shorter than the corolla; leaves lance-shaped, the upper ones embracing the stem, smooth above, hairy beneath.—Whole plant bright-green: leaves covered on the back part with callous warts: flowers dull-blue. Biennial: flowers in June: grows in shady lanes: rare. Essex, Kent, Surrey, Worcestershire, Oxfordshire, Carse of Gowrie, &c. *Eng. Bot.* vol. xxiii. pl. 1643. *Eng. Fl.* vol. i. p. 261. 299.

#### 5. PULMONARIA. LUNG-WORT.

Calyx inferior, of one leaf, prismatic, five-cornered, with five equal segments. Corolla of one petal, funnel-shaped; tube cylindrical, long; mouth naked and open. Filaments very short; anthers oval, erect. Germens four, roundish. Style thread-shaped short; stigma small, notched. Seeds four, globular, hairy.—Named from *pulmones*, the lungs, the spotted leaves being supposed to resemble those organs. 90.

1. *P. officinalis*. *Common Lung-wort*. Leaves egg-shaped.—Root fibrous: stems about a foot high, erect, leafy, hairy: leaves hairy, generally speckled with white on the upper side, the lower on long bordered stalks, the upper sessile: flowers violet-blue. Perennial: flowers in May: grows in woods and shady lanes: rare. *Eng. Bot.* vol. ii. pl. 116. *Eng. Fl.* vol. i. p. 262. 300.

2. *P. angustifolia*. *Narrow-leaved Lung-wort*. Leaves lance-shaped.—Taller than the former, and differing chiefly in the form of the leaves, which are seldom spotted. Perennial: flowers in May and June: grows in woods and thickets: rare. Isle of Wight: New Forest, Hampshire. *Eng. Bot.* vol. xxiii. pl. 1628. *Eng. Fl.* vol. i. p. 263. 301.

#### 6. SYMPHYTUM. COMFREY.

Calyx inferior, of one leaf, five-cleft; segments acute. Corolla of one petal, bell-shaped; mouth closed by five lance-shaped, fringed valves. Filaments short, anthers arrow-shaped, concealed by the valves. Germens four, abrupt. Style club-shaped, long; stigma undivided. Seeds four, egg-shaped.—Named from *symphuo*, to unite, on account of its imagined sanative powers. 91.

1. *S. officinale*. *Common Comfrey*. Leaves between egg-shaped



and lance-shaped, decurrent, covered with fine hairs.—Root oblong, fleshy, black : stems three feet high, hairy, winged : flowers yellowish-white. A variety has purple flowers. Perennial : flowers in May and June : grows on the banks of rivers and ditches : frequent. The roots are glutinous and mucilaginous, and have been used for coughs. *Eng. Bot.* vol. xii. pl. 817. *Eng. Fl.* vol. i. p. 264. 302.

2. *S. tuberosum*. *Tuberous Comfrey*. Leaves egg-shaped, slightly decurrent, covered with coarse hairs, the upper ones opposite.—Root white externally : flowers drooping, yellowish-white, tinged with green. Perennial : flowers in July : grows on the banks of rivers and ditches : common in Scotland : rare in England. *Eng. Bot.* vol. xxi. pl. 1502. *Eng. Fl.* vol. i. p. 264. 303.

#### 7. BORA'GO. BORAGE.

Calyx inferior, of one leaf, deeply five-cleft. Corolla of one petal, wheel-shaped ; mouth bordered with five short notched valves, or with awl-shaped valves, or with both. Filaments awl-shaped, anthers arrow-shaped or oblong. Germens four. Styles cylindrical ; stigma knobbed. Seeds four, egg-shaped, wrinkled.—Named from *cor*, the heart, and *ago*, to bring. 92.

1. *B. officinalis*. *Common Borage*. Leaves egg-shaped, alternate ; mouth of the corolla with a double row of valves, the innermost awl-shaped, bearing the stamens.—Whole plant covered with very pungent bristles : flowers numerous, in terminal bunches : corolla brilliant blue, large. The flowers were supposed to be cordial, and were infused in drinks ; but quackeries of this kind are now out of fashion. Biennial : flowers in June and July : grows in waste ground, near houses. *Eng. Bot.* vol. i. pl. 36. *Eng. Fl.* vol. i. p. 265. 304.

#### 8. ASPERU'GO. CATCHWEED.

Calyx inferior, of one leaf, deeply five-cleft, subsequently enlarged, forming two erect lobes. Corolla of one petal, funnel-shaped ; mouth nearly closed by five rounded horizontal valves. Filaments very short ; anthers small, roundish. Germens four, compressed. Style erect, long ; stigma blunt. Seeds four, oblong, compressed, attached to a central column in pairs.—Name from *asper*, rough. 93.

1. *A. procumbens*. *Trailing Catchweed*. Calyx when in fruit compressed. Stems prostrate, square, leafy, their angles prickly : leaves generally in threes, elliptical, dark-green, covered with bristles : corolla small, blue. Annual : flowers in June and July : grows in waste ground : rare. Durham. Dunbar castle : near Aberlady, East Lothian. *Eng. Bot.* pl. 36. *Eng. Fl.* vol. i. p. 263. 305.

#### 9. LYCOP'SIS. BUGLOSS.

Calyx inferior, of one leaf, deeply five-cleft. Corolla of one petal, funnel-shaped ; tube twice bent ; mouth clothed with five rounded, hairy valves. Filaments very small ; anthers oblong. Germens four. Style thread-shaped, short ; stigma blunt, notched. Seeds four, egg-shaped, cornered.—Named from *lycos*, a wolf, and *opsis*, a face. 94.

1. *L. arvensis*. *Small Bugloss*. Leaves spear-shaped, waved, very bristly.—The whole plant very rough and bristly: stems erect, roundish, about a foot high: corolla sky-blue, with white valves. Annual: flowers in June and July: grows in corn-fields and by road-sides: common. *Eng. Bot.* vol. xiv. pl. 938. *Eng. Fl.* vol. i. p. 268. 306.

#### 10. E'CHIUM. VIPER'S-BUGLOSS.

Calyx inferior, of one leaf, permanent, five-cleft, the segments awl-shaped. Corolla of one petal, bell-shaped; tube very short; limb gradually widening upwards; segments five, the two uppermost longest, the lower smallest; mouth open and naked. Filaments as long as the corolla, awl-shaped, unequal; anthers oblong, fixed sidewise. Germens four. Style thread-shaped, long; its summit blunt, cleft. Seeds four, roundish, wrinkled, obliquely pointed.—Named from *echis*, a viper. 95.

1. *E. vulgäre*. *Common Viper's-bugloss*. Stem simple, rough with bristles and tubercles; stem-leaves lance-shaped, bristly; spikes short, lateral, hairy, deflected.—Stems from one to two feet high, round: leaves alternate, entire, dull green: the lowest stalked: flowers large, crowded, beautiful, bright purplish blue, sometimes white. Biennial: flowers in June and July: grows in corn-fields and waste ground: common. *Eng. Bot.* vol. iii. pl. 181. *Eng. Fl.* vol. i. p. 269. 307.

2. *E. violaceum*. *Violet-flowered Bugloss*. Stem spreading, branched, rough with bristles and tubercles; lower leaves egg-shaped, stalked, upper ones heart-shaped and somewhat clasping at the base.—Stem often decumbent: spikes longer than in the preceding, and bearing more distant flowers. Biennial: flowers in July and August: grows in sandy ground: very rare. Plentiful about St. Hélier, Jersey. *Brit. Fl.* 4th ed. p. 87. 308.

#### 11. PRIMULA. PRIMROSE.

Calyx inferior, of one leaf, tubular, with five angles and five teeth, erect, permanent. Corolla of one petal, salver-shaped; tube cylindrical, as long as the calyx; limb spreading, with five somewhat deep inversely heart-shaped segments; mouth open. Filaments very short, in the throat; anthers pointed, erect, within the tube. Germen globular. Style thread-shaped, as long as the calyx; stigma globular. Capsule cylindrical, one-celled, opening at the top with ten acute teeth. Seeds numerous, roundish, attached to a central, oblong receptacle.—Name from *primus*, first, on account of its early appearance. 96.

1. *P. vulgaris*. *Common Primrose*. Leaves wrinkled, toothed; stalks single-flowered; limb of the corolla flat.—Leaves numerous, radical, oblong, unequally toothed, soft, reticulated, gradually tapering downwards into short foot-stalks: flowers numerous, large, sulphur-yellow, having a pleasant smell. Perennial: flowers in April and May: grows in woods, hedges, and thickets, on grassy banks, &c.: common. *Eng. Bot.* vol. i. pl. 4. *Eng. Fl.* vol. i. p. 271. 309.

2. *P. eldior*. *Oxlip Primrose*. Leaves wrinkled, toothed; stalk many-flowered; limb of the corolla flat.—Leaves contracted about

the middle: flowers in an umbel: corolla smaller than in the last, pale-yellow, the centre deeper yellow. This is supposed, without much reason, to be a hybrid between the Primrose and the Cowslip. It is more likely a variety of the former. Perennial: flowers in April and May: grows in woods, hedges, &c.: not common. *Eng. Bot.* vol. viii. pl. 513. *Eng. Fl.* vol. i. p. 271. 310.

3. *P. veris*. *Cowslip*. *Paigle*. Leaves toothed, wrinkled, contracted towards the middle; stalk many-flowered; limb of the corolla concave.—Leaves more downy and softer than in the foregoing: flowers in umbels: corolla with the limb concave, shorter, and of a deeper yellow: the flowers are used for making cowslip wine. Perennial: flowers in April and May: grows in meadows and pastures: common in England; rare in Scotland, except about Edinburgh. *Eng. Bot.* vol. i. pl. 5. *Eng. Fl.* vol. i. p. 272. 311.

4. *P. farinosa*. *Bird's-eye Primrose*. Leaves toothed, even, powdery beneath; limb of the corolla flat; mouth with a notched border; stigma undivided.—Leaves mealy underneath: corolla rose-coloured, the mouth surrounded with a yellow, notched, glandular border: umbel few-flowered. Perennial: flowers in June and July: grows in wet pastures, and by rivulets in the north of England and in Scotland: rare. *Eng. Bot.* vol. i. pl. 6. *Eng. Fl.* vol. i. p. 273. 312.

5. *P. Scotica*. *Scottish Primrose*. Leaves toothed, even, powdery on both sides: limb of the corolla flat: mouth with a notched border: stigma five-cleft.—Smaller than the last, the leaves mealy on both sides. Perennial: flowers in June and July: grows on the east coast of the northern division of Scotland, and in the Orkney Islands. *Eng. Bot. Suppl.* pl. 2608. *Eng. Fl.* vol. i. p. 273. 313.

## 12. CYCLAMEN. CYCLAMEN.

Calyx inferior, divided half-way into five egg-shaped segments, permanent. Corolla of one petal, wheel-shaped, with a nearly globular tube, reflexed limb, and open naked mouth, prominent at the circumference. Filaments very short; anthers straight, acute. Germen roundish. Style thread-shaped, longer than the stamens; stigma acute. Capsule globose, one-celled, the inside pulpy. Seeds numerous, egg-shaped, angular.—Name from *cyclos*, a circle. 97.

1. *C. hederæfolium*. *Ivy-leaved Cyclamen*. Leaves heart-shaped, angular, finely toothed.—Root globular, brown: leaves variegated with dark and pale green: flowers pendulous on naked stalks: corolla white or flesh-coloured: very acrid, especially the root. Perennial: flowers in April: grows in thickets and woods, hardly indigenous: rare. *Eng. Bot.* vol. viii. pl. 810. *C. europæum*. *Eng. Fl.* vol. i. p. 274. 314.

## 13. MENYANTHES. BOG-BEAN.

Calyx inferior, of one leaf, deeply divided into five segments, permanent. Corolla of one petal, with a short tube, and a limb divided into five, recurved segments, covered above with long thread-like fibres. Filaments awl-shaped, short; anthers cleft at the base. Germen conical. Style cylindrical; stigma notched.

Capsule egg-shaped, one-celled, two-valved. Seeds numerous, attached to the margins of each valve.—Named from *mene*, a month, and *anthos*, a flower. 98.

1. *M. trifoliata*. *Marsh Trefoil. Bog-bean.* Leaves ternate, disk of the corolla shaggy.—Root large, black, creeping: stems round: leaves ternate on round foot-stalks: clusters stalked, opposite the leaves: corolla flesh-coloured, the filaments white. This beautiful plant is possessed of powerful medicinal properties: an infusion of the leaves is extremely bitter, and is prescribed in rheumatism and dropsies: it may be used as a substitute for hops in making beer, and is employed as a purgative for calves. Perennial: flowers in June and July: grows in marshy places, ditches, pools, and shallow lakes: abundant. *Eng. Bot.* vol. vii. pl. 495. *Eng. Fl.* vol. i. p. 275. 315.

#### 14. VILLARSIA. VILLARSIA.

Calyx inferior, of one leaf, deeply divided into five segments. Corolla of one petal, wheel-shaped, with a limb often fringed with hairs. Capsule one-celled. Seeds numerous, attached to the margins of each valve.—Named in honour of *M. de Villars*, a French botanist. 99.

1. *V. nymphaeoides*. *Fringed Bog-bean, or Water Lily.* Leaves heart-shaped, waved at the edges, floating; corolla fringed.—Stems several feet long: flowers axillar: corolla yellow, with a darker disk. Perennial: flowers in July and August: grows in ponds and rivers: rare. In several parts of the Thames; in the Isis. *Eng. Bot.* vol. iv. pl. 217. *Menyanthes nymphaeoides*. *Eng. Fl.* vol. i. p. 276. 316.

#### 15. HOTTONIA. FEATHERFOIL.

Calyx inferior, of one leaf, deeply divided into five linear segments. Corolla of one petal, salver-shaped, with a cylindrical, open tube, the limb divided into five oblong, notched, equal segments. Filaments awl-shaped, short; anthers oblong. Germen globular, pointed. Style short, cylindrical; stigma globular. Capsule globular, pointed, one-celled, five-valved. Seeds numerous, roundish.—Named after a Leyden professor, *P. Hotton*. 100.

1. *H. palustris*. *Water Featherfoil. Water Violet.* Stalks solitary; many-flowered; partial stalks whorled.—Foliage under water, the flowers alone rising above the surface: leaves deeply pinnatifid, with linear segments: flowers in numerous whorls, lilac-coloured, of the shape of those of the primrose. Perennial: flowers in June: grows in ditches and ponds, in England: not common. *Eng. Bot.* vol. vi. pl. 364. *Eng. Fl.* vol. i. p. 277. 317.

#### 16. LYSIMACHIA. LOOSE-STRIFE.

Calyx inferior, of one leaf, deeply divided into five acute segments. Corolla of one petal, wheel-shaped, without a tube, the limb divided into five egg-shaped segments. Filaments awl-shaped; anthers oblong, notched at both ends. Germen roundish. Style thread-shaped, as long as the stamens; stigma obtuse. Capsule globular, pointed, one-celled, ten-valved.

Seeds numerous, angular.—Named from *lysis*,<sup>1</sup> dissolving, and *mache*, battle. 101.

\* *Stalks many-flowered.*

1. *L. vulgaris*. *Great Yellow Loose-strife*. Clusters paniced, terminal, leaves between egg-shaped and lance-shaped, acute.—Root creeping: stems four feet high, erect, angled: flowers yellow. Perennial: flowers in July: grows in wet shady places: rare. *Eng. Bot.* vol. xi. pl. 761. *Eng. Fl.* vol. i. p. 278. 318.

2. *L. thyrsiflora*. *Tufted Loose-strife*. Clusters lateral, stalked.—Root creeping: stems two feet high, erect, simple: leaves numerous, opposite, sessile, lance-shaped: flowers small, yellow. Perennial: flowers in July: grows in watery places: rare. *Eng. Bot.* vol. iii. pl. 176. *Eng. Fl.* vol. i. p. 279. 319.

\*\* *Stalks single-flowered.*

3. *L. nemorum*. *Wood Loose-strife*. *Yellow Pimpernel*. Leaves egg-shaped, acute; stem procumbent; stamens smooth.—Stems from six to twelve inches long: flowers golden yellow. Perennial: flowers from May to September: grows in woods and thickets: common. *Eng. Bot.* vol. viii. pl. 528. *Eng. Fl.* vol. i. p. 279. 320.

4. *L. Nummularia*. *Creeping Loose-strife*. *Money-wort*. Leaves approaching to heart-shaped; flowers solitary; stem prostrate, creeping; stamens glandular.—Stems compressed with four prominent angles, from one to two feet long: flowers pale lemon-coloured. Perennial: flowers in June and July: grows in wet meadows, and on the borders of rivulets: frequent. *Eng. Bot.* vol. viii. pl. 528. *Eng. Fl.* vol. i. p. 280. 321.

17. ANAGALLIS. PIMPERNEL.

Calyx inferior, of one leaf, deeply divided into five acute, spreading segments, permanent. Corolla of one petal, wheel-shaped, without a tube, the limb nearly flat, divided into five egg-shaped segments. Filaments slender, erect, shorter than the corolla, covered with glandular hairs; anthers heart-shaped. Germen globular. Style thread-shaped; stigma knobbed. Capsule round, one-celled, splitting across into two valves. Seeds numerous, angular.—Named from *anagelao*, to laugh. 102.

1. *A. arvensis*. *Common Scarlet Pimpernel*. Leaves egg-shaped, dotted beneath; stem procumbent; corolla minutely notched.—Stem trailing, branched, square: leaves sessile: corolla scarlet, with a violet-coloured mouth, sometimes blue. Annual: flowers in the summer months: grows in fields and gardens: common. *Eng. Bot.* vol. xxvi. pl. 529. *Eng. Fl.* vol. i. p. 281. 322.

2. *A. tenella*. *Bog Pimpernel*. Leaves roundish, somewhat pointed, stalked: stem creeping.—Root and stems creeping: leaves finely dotted beneath: flowers erect, rose-coloured. Perennial: flowers in July and August: grows on wet heaths and meadows: not uncommon. *Eng. Bot.* vol. viii. pl. 530. *Eng. Fl.* vol. i. p. 282. 323.

18. AZALEA. AZALEA.

Calyx inferior, of one leaf, deeply divided into five acute, erect segments, permanent. Corolla of one petal, bell-shaped,

divided half-way into five nearly equal segments with inflected margins. Filaments thread-shaped. Anthers roundish; germen globular. Style cylindrical, erect, permanent; stigma knobbed. Capsule roundish, with five deep furrows, five-celled, five-valved. Seeds numerous, roundish.—From *azaleos*, parched. 103.

1. *A. procumbens*. *Trailing Azalea*. Branches spreading and procumbent; leaves opposite, revolute, smooth.—A small shrub growing in tufts: flowers terminal, rose-coloured. Flowers in July: grows on dry heathy ground on many of the Highland mountains. *Eng. Bot.* pl. 865. *Eng. Fl.* vol. i. p. 282. 324.

#### 19. CONVOLVULUS. BINDWEED.

Calyx inferior, of one leaf, small, divided into five egg-shaped, permanent segments. Corolla of one petal, large, bell-shaped, regular, with five plaits and five shallow lobes; nectary, a gland under the germen. Filaments awl-shaped, half as long as the corolla; anthers arrow-shaped, erect, terminal. Germen roundish. Style thread-shaped, as long as the stamens; stigmas two, spreading. Capsule roundish. Seeds large, roundish.—Named from *convolvere*, to entwine. 104.

1. *C. sépium*. *Great Bindweed*. Leaves arrow-shaped; flower-stalks square, bearing a single flower; bractees heart-shaped, close to the flower.—Roots long, creeping: stems twining, several feet long: flowers large, white or tinged with rose-colour. Perennial: flowers in July and August: grows in hedges and thickets: frequent. *Eng. Bot.* vol. v. pl. 312. *Eng. Fl.* vol. i. p. 285. 325.

2. *C. arvensis*. *Small Bindweed*. Leaves arrow-shaped; flower-stalks bearing a single flower; bractees minute, remote from the flower.—Root creeping, long: stems twining or prostrate, several feet long: flowers rose-coloured, sometimes white. Perennial: flowers in June and July: grows in hedges, on dry banks, in pastures, &c.: common. *Eng. Bot.* vol. v. pl. 312. *Eng. Fl.* vol. i. p. 285. 326.

3. *C. Soldanella*. *Sea Bindweed*. Leaves kidney-shaped; flower-stalks bearing a single flower, their angles membranous; stems procumbent.—Root creeping: stems about two feet long: leaves rather succulent: flowers large, purplish pink-coloured, with pale yellow plaits. Perennial: flowers in June and July: grows in sand on the sea-shore: frequent. *Eng. Bot.* vol. v. pl. 314. *Eng. Fl.* vol. i. p. 286. 327.

#### 20. POLEMONIUM. GREEK VALERIAN.

Calyx inferior, of one leaf, cup-shaped, divided into five broad segments, permanent. Corolla of one petal, wheel-shaped, with a very short tube, closed at the top by five convex, downy valves; the limb flat, with five obtuse, equal segments. Filaments thread-shaped, inclining, shorter than the corolla; anthers roundish, erect. Germen egg-shaped, acute, superior. Style cylindrical, as long as the stamens; stigma three-cleft, revolute. Capsule egg-shaped, with three blunt angles, three-celled, three-valved. Seeds numerous, triangular.—Named from *polemos*, war. 105.

1. *P. cœruleum*. Greek Valerian. Jacob's Ladder. Leaves pinnate; flowers erect; root fibrous.—Stem from one to two feet high, angular, hollow, leafy, paniced at the top: leaves alternate: flowers numerous, blue. Perennial: flowers in June: grows in bushy places in the north of England and south of Scotland: rare. *Eng. Bot.* vol. i. pl. 14. *Eng. Fl.* vol. i. p. 287. 328.

## 21. CAMPANULA. BELL-FLOWER.

Calyx superior, of one leaf, deeply divided into five acute segments, permanent. Corolla of one petal, bell-shaped, impervious at the base, furnished at the lower part with five acute valves, covering the top of the germen, the limb divided into five broad, regular segments. Filaments hair-shaped, very short, from the point of the valves; anthers linear, compressed. Germen inferior, angular. Style thread-shaped, longer than the stamens; stigma oblong, with three revolute divisions. Capsule roundish, angular, three-celled. Seeds numerous, small.—Name, *campanula*, a little bell. 106.

1. *C. rotundifolia*. Round-leaved or Common Bell-flower. Root-leaves kidney-shaped, serrate; stem-leaves linear, entire.—The root-leaves wither very soon, so that when the plant is in flower the stem-leaves alone, of which the lower are lanceolate, the upper linear, are to be seen: stem about a foot high: corolla blue. Perennial: flowers in July and August: grows in dry pastures, by road-sides, hedges, &c.: common. *Eng. Bot.* vol. viii. pl. 866. *Eng. Fl.* vol. i. p. 288. 329.

2. *C. patula*. Spreading Bell-flower. Root-leaves egg-shaped; stem-leaves narrow, lance-shaped, all even, crenate and roughish; panicle spreading; calyx minutely toothed.—Stem two feet high, angular, rough, paniced: flowers fine blue, larger than those of the preceding species. Annual: flowers in July and August: grows in pastures, on the borders of fields, and in hedges: rare. Borders of Budden Wood, near Loughborough; in many parts of Worcestershire and Staffordshire; in Norfolk, Surrey, and Kent. *Eng. Bot.* vol. i. pl. 42. *Eng. Fl.* vol. i. 290. 330.

3. *C. Rapunculus*. Rampion Bell-flower. Leaves waved, crenate, roughish; root-leaves elliptical; stem angular, hairy below; panicle compact; calyx entire.—Root spindle-shaped, white: stem three feet high, leafy: corolla light-blue. The roots are eaten raw, or variously dressed. Biennial: flowers in July and August: grows about the borders of fields, on hedge-banks, &c.; in Norfolk, Kent, and Surrey: not common. *Eng. Bot.* vol. iv. pl. 288. *Eng. Fl.* vol. i. p. 290. 331.

4. *C. persicifolia*. Peach-leaved Bell-flower. Leaves smooth, slightly serrate; root-leaves inversely egg-shaped, stem-leaves narrow, lance-shaped, sessile; stem round, smooth, few-flowered.—Root creeping: stems about two feet high: flowers very large, fine blue. Perennial: flowers in July. Said to have been found near Cullen, by Mr. G. Don. *Eng. Bot. Suppl.* pl. 2773. *Eng. Fl.* vol. i. p. 291. 332.

5. *C. latifolia*. Giant Bell-flower. Leaves roughish, between egg-shaped and lance-shaped; stem simple, rounded; flowers solitary, stalked, erect; fruit drooping.—Stem three or four feet high:

flowers large, deep blue, sometimes white. Perennial: flowers in July and August: grows in moist woods and thickets: rare in England; common in Scotland. *Eng. Bot.* vol. v. pl. 302. *Eng. Fl.* vol. ix. p. 291. 333.

6. *C. rapunculoides*. *Creeping Bell-flower*. Leaves roughish; root-leaves heart-shaped, crenate, stalked; stem-leaves lance-shaped, sessile; flowers unilateral, drooping, forming a terminal cluster. —Stems about two feet high: flowers purplish-blue. Perennial: flowers in July and August: grows in woods and fields: rare. Oxfordshire; near Kirkcaldy, Fifeshire, and about Edinburgh. *Eng. Bot.* vol. xx. pl. 1369. *Eng. Fl.* vol. i. p. 292. 334.

7. *C. Trachelium*. *Nettle-leaved Bell-flower*. Stem angular; leaves stalked, heart-shaped, acutely serrate, bristly as well as the calyx; flower-stalks axillar. —Stem two or three feet high: upper leaves lance-shaped: flowers large, deep-blue. Perennial: flowers in July: grows in woods, thickets and hedges, in England: frequent. *Eng. Bot.* vol. i. pl. 12. *Eng. Fl.* vol. i. p. 293. 335.

8. *C. glomerata*. *Clustered Bell-flower*. Stem angular, simple; leaves egg-shaped, crenate, rough with hairs, those of the stem embracing; flowers sessile, mostly in a terminal head. —Stem about a foot high, erect: flowers deep bluish-purple. Perennial: flowers in July and August: grows in dry pastures: not common. *Eng. Bot.* vol. ii. pl. 90. *Eng. Fl.* vol. i. p. 293. 336.

9. *C. hybrida*. *Corn Bell-flower*. Stem straight, rough; leaves oblong, crenate; corolla widely spreading, shorter than the calyx. —Stem about six inches high: flowers deep-blue. Annual: flowers in August: grows in dry corn-fields, in England: frequent. Near Edinburgh. *Eng. Bot.* vol. vi. pl. 375. *Eng. Fl.* vol. i. p. 294. 337.

10. *C. hederacea*. *Ivy-leaved Bell-flower*. Stem feeble, much branched, procumbent; leaves stalked, smooth, heart-shaped, with angular lobes. —Stems in loose tufts: flowers pale purplish-blue. Perennial: flowers in July and August: grows in moist shady places: not common. *Eng. Bot.* vol. ii. pl. 73. *Eng. Fl.* vol. i. p. 295. 338.

## 22. PHYTEUMA. RAMPION.

Calyx superior, of one leaf, deeply divided into five acute, permanent segments. Corolla of one petal, wheel-shaped, deeply divided into five linear, acute, recurved segments. Filaments thread-shaped, dilated at the base, much shorter than the corolla; anthers oblong. Germen angular. Style cylindrical, curved, longer than the stamens; stigma divided into two or three spreading segments. Capsule roundish, two or three-celled, with strong ribs. Seeds numerous, small, inversely egg-shaped. —Name signifies merely a plant. 107.

1. *Ph. orbiculire*. *Round-headed Rampion*. Flowers in a roundish head; root-leaves heart-shaped, stem-leaves elliptical, the upper ones lance-shaped. —Stems about a foot high, angular, smooth: leaves crenate, the lower ones stalked, the upper sessile: flowers deep-blue. Perennial: flowers in August: grows in pastures, and by road-sides, in the south of England: rare. *Eng. Bot.* vol. ii. pl. 142. *Eng. Fl.* vol. i. p. 296. 339.



2. *Ph. spicatum*. *Spiked Rampion*. Flowers in an oblong cylindrical spike; root-leaves oblong, heart-shaped at the base, stalked, somewhat doubly serrate; upper leaves and bractæ narrow lanceolate, short, sessile.—Perennial: flowers in July: discovered in Sussex, in 1825, by the Rev. Ralph Price, but is probably not indigenous. *Eng. Bot. Suppl.* pl. 2598. *Brit. Fl.* 4th ed. p. 101. 340.

### 23. JASIONE. SHEEP'S-BIT.

Calyx superior, of one leaf, deeply divided into five acute, permanent segments. Corolla wheel-shaped, deeply divided into five lance-shaped, equal segments. Filaments awl-shaped, short; anthers oblong, united at the base. Germen roundish. Style cylindrical, longer than the stamens; stigma cleft. Capsule roundish, with five angles, imperfectly two-celled, opening by a round pore at the top. Seeds numerous, oblong, minute, attached to a globular stalked receptacle.—Name doubtful. 108.

1. *J. montana*. *Common Sheep's-bit*.—Root tapering: stems about eight inches high, generally branched: leaves sessile, oblong, rough: flowers purplish-blue, in round terminal tufts, each tuft surrounded by egg-shaped bractæ. Annual: flowers in June and July: grows in dry pastures: frequent. *Eng. Bot.* vol. xiii. pl. 882. *Eng. Fl.* vol. i. p. 297. 341.

### 24. LOBELIA. LOBELIA.

Calyx superior, of one leaf, deeply divided into five small, nearly regular, permanent segments. Corolla of one petal, irregular: tube cylindrical, split along the upper side: limb deeply divided into five lance-shaped segments, the two upper small, forming the upper lip, the others more spreading and forming the lower lip. Filaments awl-shaped, as long as the tube, united at the top; anthers united into a cylinder. Germen pointed. Style cylindrical, as long as the stamens; stigma knobbed, hairy. Capsule elliptical, angular, with two or three cells, and as many valves, open at the top: partitions contrary to the valves. Seeds numerous, minute, covering a conical receptacle.—Named after *Matthias Lobel*. 109.

1. *L. Dortmanna*. *Water Lobelia*. Leaves linear, entire, with two longitudinal cells; stem nearly leafless.—Leaves numerous, mostly from the root: stem solitary, erect, hollow, slightly leafy, terminating in a loose cluster of pale-blue, drooping flowers. Perennial: flowers in July: grows near the margins of lakes, the flowers rising above the water: very common in the Highlands and Hebrides. *Eng. Bot.* vol. ii. pl. 140. *Eng. Fl.* vol. i. p. 298. 342.

2. *L. urens*. *Acrid Lobelia*. Stem nearly erect; lower leaves roundish, crenate; upper lance-shaped, serrate; clusters terminal.—Stem about a foot high, branched, leafy, roughish: flowers pale purplish-blue, downy. Perennial: flowers in August and September: grows on bushy heaths in Devonshire: very rare. *Eng. Bot.* vol. xiv. pl. 953. *Eng. Fl.* vol. i. p. 299. 343.

## 24. IMPATIENS. TOUCH-ME-NOT.

Calyx inferior, small, of two roundish, concave, unequal, deciduous leaves. Corolla of five unequal petals; the upper roundish, flat, erect, three-cleft, forming the upper lip; the two lower very large, reflected, obtuse, irregular, forming the lower lip; the middle two opposite, at the base of the upper lip, sometimes wanting; nectary of one leaf, tubular, oblique at the mouth, the upper edge of which is attached to the receptacle, tapering at the base into a curved spur. Filaments very short, incurved; anthers united at the base. Germen egg-shaped, pointed. Style none; stigma undivided, short. Capsules egg-shaped, five-celled, five-valved. Seeds oval, attached to a central column.—So named because the capsule, impatient of being touched, opens when handled. 110.

1. *I. Noli-me-tangere*. Touch-me-not. Yellow Balsam. Flowers on branched axillar stalks; leaves egg-shaped, serrate, stalked; joints of the stem swelling.—Stem a foot high, rounded, succulent, brittle: flowers large, yellow, internally spotted with red. Annual: flowers in July and August: grows in watery places in the north of England, but is not indigenous. *Eng. Bot.* vol. xiv. pl. 937. *Eng. Fl.* vol. i. p. 300. 344.

## 26. VIOLA. VIOLET.

Calyx inferior, of five oblong, acute, equal, erect, permanent leaves, produced downwards beyond their insertion; two of them under the uppermost petal, one under each of the lateral petals, and one under the two lower. Corolla irregular, of five unequal petals; the uppermost broadest, slightly cleft, directed downwards, terminating at the base in a curved spur, projecting between the leaves of the calyx; two lateral petals opposite, equal, obtuse, straight; two lower equal, larger, and directed upwards. Filaments very small; anthers broad, close together, obtuse, each with a membranous point. Germen superior, roundish. Style thread-shaped, extending beyond the anthers; stigma oblique. Capsule egg-shaped, one-celled, three-valved. Seeds several in each cell, egg-shaped, attached to a linear receptacle in the middle of each valve.—Name of doubtful origin. 111.

1. *V. hirta*. Hairy Violet. Stem none; leaves heart-shaped, rough with hairs, as well as their stalks; leaves of the calyx obtuse; lateral petals with a hairy central line.—Stipules lance-shaped: flowers solitary, light greyish-blue, streaked with black. Perennial: flowers in April: grows in woods and pastures: common in England; rare in Scotland. *Eng. Bot.* vol. xiii. pl. 894. *Eng. Fl.* vol. i. p. 302. 345.

2. *V. odorata*. Sweet Violet. Stem none; root throwing out creeping runners; leaves heart-shaped, nearly smooth, as well as their stalks; leaves of the calyx obtuse; lateral petals with a hairy central line.—Stipules lance-shaped, toothed: flowers deep purplish-blue, scented. Perennial: flowers in March and April: grows in woods and pastures: frequent in England; rare in Scotland. *Eng. Bot.* vol. ix. pl. 619. *Eng. Fl.* vol. i. p. 302. 346.

3. *V. palustris*. Marsh Violet. Stem none; leaves kidney-shaped, smooth; root creeping; spur very short; lateral petals with a central hairy line.—Stipules egg-shaped, nearly entire: flowers drooping, very pale blue, with purple streaks. Perennial: flowers in April: grows in bogs and wet mossy ground: frequent. *Eng. Bot.* vol. vii. pl. 444. *Eng. Fl.* vol. i. p. 303. 347.

4. *V. canina*. Dog's Violet. Stem angular; leaves heart-shaped; leaves of the calyx acute; stipules serrate; bractees linear, entire.—Leaves nearly smooth, crenate; flowers drooping, blue, with purple lines, and a greenish-white spur. Perennial: flowers through the summer: grows in woods, thickets, hedges, and pastures: very common. *Eng. Bot.* vol. ix. pl. 620. *Eng. Fl.* vol. i. p. 304. 348.

5. *V. lactea*. Cream-coloured Violet. Stem round; leaves between egg-shaped and lance-shaped; stipules toothed; bractees lance-shaped; leaves of the calyx acute.—Flowers bluish-white, with purplish streaks. Perennial: flowers in May: grows in hilly pastures: rare. *Eng. Bot.* vol. vii. pl. 445. *Eng. Fl.* vol. i. p. 304. 349.

6. *V. tricolor*. Pansy Violet. Heart's-ease. Stem angular, branched, spreading; leaves oblong, deeply crenate; stipules lyre-shaped, pinnatifid.—Stem about six inches high, usually branched, sometimes simple: flowers varying greatly in size and colour. Annual: flowers through the summer and autumn: grows in loose soil: common. *Eng. Bot.* vol. xviii. pl. 1287. *Eng. Fl.* vol. i. p. 306. 350.

7. *V. lutea*. Yellow Pansy. Stem triangular, unbranched, erect, decumbent at the base; leaves broadly oblong, crenate, fringed; stipules lobed, palmate.—Stem three or four inches high: flowers very large, generally yellow, sometimes purple. Perennial: flowers from May to September: grows in hilly pastures: common. *Eng. Bot.* vol. xi. pl. 721. *Eng. Fl.* vol. i. p. 307. It is extremely probable that *V. tricolor* and *V. lutea* are the same species. 351.

## 27. VERBA SCUM. MULLEIN.

Calyx inferior, of one leaf, deeply divided into five erect, acute, nearly equal, permanent segments. Corolla of one petal, wheel-shaped, unequal, the tube very short; the limb spreading, deeply divided into five rounded segments. Filaments awl-shaped, unequal, declining, woolly, shorter than the corolla; anthers kidney-shaped, compressed. Germen roundish. Style thread-shaped, slightly swelling upwards, declining, rather longer than the stamens; stigma obtuse. Capsule egg-shaped, two-celled, two-valved; partition double, frequently incomplete. Seeds numerous, minute, angular, covering the egg-shaped or globular central receptacle.—Name altered from *barbascum*, which is derived from *barba*, a beard. 112.

1. *V. Thapsus*. Great Mullein. Leaves decurrent, woolly on both sides; stem simple; cluster dense.—Root spindle-shaped: stem erect, three or four feet high, woolly: flowers nearly sessile, large, golden yellow. Biennial: flowers in July and August: grows in waste ground, in sandy or gravelly soil: frequent. *Eng. Bot.* vol. viii. pl. 549. *Eng. Fl.* vol. i. p. 309. 352.

2. *V. Lychnitis*. *White Mullein*. Leaves oblong, inclining to wedge-shaped, nearly smooth on their upper side; stem angular, panicled.—Stem erect, about three feet high, woolly: flowers stalked, rather small, cream-coloured. Biennial: flowers in July and August: grows in waste places: very rare. Near Truro. *Eng. Bot.* vol. i. pl. 58. *Eng. Fl.* vol. i. p. 310. 353.

3. *V. pulverulentum*. *Yellow Hoary Mullein*. Leaves egg-shaped, obscurely serrate, covered on both sides with mealy wool; stem round, panicled.—Stem from three to five feet high, leafy, woolly: flowers bright-yellow, stalked. Biennial: flowers in July: grows in waste places: rare. Common in Norfolk and Suffolk. *Eng. Bot.* vol. vii. pl. 487. *Eng. Fl.* vol. i. p. 311. 354.

4. *V. nigrum*. *Black Mullein*. Leaves heart-shaped, stalked, waved, crenate, slightly downy; stem angular; cluster spiked.—Stem two or three feet high, leafy: flowers bright-yellow: stamens covered with purple hairs. Perennial: flowers in July and August: grows in waste places: frequent in England; rare in Scotland. *Eng. Bot.* vol. i. pl. 59. *Eng. Fl.* vol. i. p. 312. 355.

5. *V. virgatum*. *Large-flowered Primrose-leaved Mullein*. Leaves broadly lance-shaped, toothed, sessile; root-leaves downy, somewhat lyre-shaped; stem branched; flowers aggregate, partly stalked.—Stem five or six feet high, winged: flowers large, bright-yellow. Biennial: flowers in August: grows in fields and waste places in England: rare. *Eng. Bot.* vol. viii. pl. 550. *Eng. Fl.* vol. i. p. 313. 356.

6. *V. Blattaria*. *Moth Mullein*. Leaves embracing the stem, oblong, smooth; stem branched above, each branch terminating in a simple cluster; flower-stalks longer than the bractees.—Stem three or four feet high, erect, leafy, smooth, flowers yellow, stained with brown at the back. Annual: flowers in July: grows in gravelly soil, in England: rare. *Eng. Bot.* vol. vi. pl. 393. *Eng. Fl.* vol. i. p. 313. 357.

## 28. HYOSCYAMUS. HENBANE.

Calyx inferior, of one leaf, tubular, swelling below, the limb divided into five segments. Corolla of one petal, funnel-shaped, irregular, tube cylindrical, short, limb divided half-way into five obtuse, rounded segments, one of them broader. Filaments awl-shaped, somewhat unequal in length; anthers heart-shaped. Germen roundish. Style thread-shaped, reclined as long as the stamens; stigma knobbed. Capsule egg-shaped, with a longitudinal furrow at each side, two-celled, opening transversely. Seeds numerous, inversely egg-shaped, curved, covering the oblong, convex receptacles, which are attached to the partition.—Named from *cyamus*, a bean, and *hyos*, of a hog. 113.

1. *H. niger*. *Common Henbane*. Leaves sinuated, embracing the stem; flowers sessile.—Stem branched, rounded: the whole plant woolly and clammy, with a fetid odour: flowers pale-yellowish, with dark-purple veins. Poisonous, producing convulsions, delirium, and death: used medicinally as a sedative. Annual: flowers in July: grows in waste ground, in loose dry soil: frequent. *Eng. Bot.* vol. ix. pl. 591. *Eng. Fl.* vol. i. p. 316. 358.

## 29. A/TROPA. DEADLY NIGHT-SHADE.

Calyx inferior, of one leaf, permanent, deeply divided into five acute, somewhat unequal segments. Corolla of one petal, bell-shaped; the tube very short; the limb tumid, egg-shaped, longer than the calyx, with five shallow, nearly equal, marginal segments. Filaments awl-shaped, spreading and curved above, nearly as long as the corolla. Germen egg-shaped, with a gland beneath. Style thread-shaped, inclining upwards, as long as the corolla; stigma knobbed. Berry globular, with two lateral furrows, two-celled. Seeds numerous, kidney-shaped, attached in each cell to a fleshy receptacle, fixed to the partition.—Named after *Atropos*, one of the Fates. 114.

1. *A. Belladonna*. *Deadly Night-shade*. Stem herbaceous; leaves egg-shaped, undivided.—Stem three feet high, round, branched, slightly downy: flowers solitary, stalked, dull-purple. The whole plant is fetid and poisonous. Children are apt to eat the shining black berries, which have a sweetish taste, but in the smallest quantity produce fatal effects. Perennial: flowers in June: grows in hedges and waste ground: not common. *Eng. Bot.* vol. ix. pl. 592. *Eng. Fl.* vol. i. p. 317. 359.

## 30. SOLA/NUM. NIGHT-SHADE.

Calyx inferior, of one leaf, divided into five acute, permanent segments. Corolla of one petal, wheel-shaped; tube very short; limb much longer, reflected, plaited, divided into five acute segments. Filaments awl-shaped, short; anthers much longer than the filaments, oblong, angular, close together, with two terminal pores. Germen roundish. Styles thread-shaped, longer than the stamens, deciduous; stigma obtuse. Berry roundish, glossy, with a terminal scar, two-celled. Seeds numerous, roundish, compressed, attached to a fleshy receptacle, connected with the partition.—Name doubtful. 115.

1. *S. Dulcamara*. *Bitter-sweet*. *Woody Night-shade*. Stem shrubby, undulated, thornless; upper leaves halbert-shaped; clusters cymose.—Stem branched, twining: lower leaves heart-shaped or egg-shaped: corolla purple, with two round green spots at the base of each segment: berries oval, scarlet. The root and leaves have been applied to various medicinal uses. The berries are poisonous. A shrub: flowers in June and July: grows in thickets and hedges: frequent. *Eng. Bot.* vol. viii. pl. 365. *Eng. Fl.* vol. i. p. 318. 360.

2. *S. nigrum*. *Common Night-shade*. Stem herbaceous, thornless; leaves egg-shaped, toothed, angular; umbels lateral, drooping.—Stem branched, angular: flowers white: berries globular, black. The whole plant is fetid and narcotic, and has been employed medicinally. The potatoe belongs to this family, the species of which are generally extremely poisonous. Annual: flowers from June to September: grows in waste places near houses: common in England; rare in Scotland. *Eng. Bot.* vol. viii. pl. 566. *Eng. Fl.* vol. i. p. 319. 361.

## 31. ERYTHRÆA. CENTAURY.

Calyx inferior, permanent, of one leaf, deeply divided into five erect, awl-shaped segments. Corolla of one petal, salver-shaped; tube nearly cylindrical, slender, longer than the calyx; limb deeply divided into five egg-shaped or lance-shaped spreading segments. Filaments thread-shaped, equal, much shorter than the corolla; anthers oblong, twisting spirally. Germen oblong, or nearly linear, compressed. Style cylindrical, straight; stigmas two, roundish, finally spreading. Capsule oblong, acute at each end, compressed, imperfectly two-celled, two-valved. Seeds numerous, roundish, arranged in four rows.—Name from *erythros*, red. 116.

1. *E. Centaureum*. *Common Centaury*. Stem nearly simple; panicle forked, corymbose; leaves broadly lance-shaped; calyx half as long as the tube, its segments partly united by a membrane.—Stem about a foot high, leafy: flowers rose-coloured. Annual: flowers in July and August: grows in dry pastures: common. Bitter and stomachic, formerly much used, but now neglected. *Eng. Bot.* vol. vi. pl. 417. *Eng. Fl.* vol. i. p. 321. 362.

2. *E. littoralis*. *Dwarf Tufted Centaury*. Stem generally simple, straight; leaves between linear and inversely egg-shaped, obscurely three-ribbed; flowers sessile, densely corymbose; calyx as long as the tube, its segments united at the base.—Two or three inches high, stout: flowers rose-coloured. Annual: flowers in June and July: grows in sandy pastures near the sea: frequent. *Eng. Bot.* vol. xxxiii. pl. 2305. *Eng. Fl.* vol. i. p. 320. 363.

3. *E. pulchella*. *Dwarf Branched Centaury*. Stem much branched or simple; leaves egg-shaped; flowers stalked, solitary; calyx more than half the length of the tube; segment of the corolla lance-shaped.—Stem erect, from one to three inches high: flowers from the forks of the stem, as well as terminal, slender, with a pink corolla. Annual: flowers in August and September: grows on sandy ground near the sea: frequent. *Eng. Bot.* vol. vii. pl. 458. *Eng. Fl.* vol. i. p. 323. 364.

4. *E. latifolia*. *Broad-leaved Centaury*. Stem three-cleft at the top; flowers in dense tufts; calyx as long as the tube; segments of the corolla lance-shaped.—Stem erect, stiff: lower leaves broadly elliptical. Annual: flowers in August and September: grows on the sea-shore: rare. Very common in the Outer Hebrides, where it is gathered for the purpose of being infused in spirits as a bitter. *Eng. Fl.* vol. i. p. 321. *Eng. Bot. Suppl.* pl. 2718, but not the ordinary form. 365.

The four alleged species above described are apparently varieties of the same specific form, dependent upon differences of soil and situation.

## 32. SA'MOLUS. BROOK-WEED.

Calyx inferior, of one leaf; tube hemispherical; margin deeply divided into five equal, permanent segments. Corolla of one petal, funnel-shaped; tube wide, as long as the calyx; limb with five deep, obtuse segments, and five small intermediate scales at the base. Filaments awl-shaped, short, arising from the middle of the tube; anthers roundish, two-lobed, co-

vered by the scales of the corolla. Germen nearly globular, covered by the tube of the corolla. Style erect, short; stigma knobbed. Capsule globular, one-celled, its lower half closely invested by the calyx. Seeds numerous, small, angular, covering the globular, central receptacles.—Name doubtful. 117.

1. *S. Valerandi*. *Water Pimpernel*. *Common Brook-weed*. Leaves inversely egg-shaped; obtuse; clusters many-flowered; partial flower-stalks, each with a small bractea.—Smooth, pale-green: stem erect, round, about a foot high; flowers small, white. Perennial: flowers in July: grows in watery places, on gravelly soil: not common. *Eng. Bot.* vol. x. pl. 703. *Eng. Fl.* vol. i. p. 324. 366.

### 33. LONICERA. HONEYSUCKLE.

Calyx superior, small, of one leaf, with five deep segments. Corolla of one petal, tubular; tube oblong, bulging at one side; limb deeply divided into five revolute segments, one of which is more deeply separated. Filaments awl-shaped, arising from the upper part of the tube; anthers oblong. Germen roundish. Style thread-shaped, as long as the corolla; stigma bluntly knobbed. Berry roundish, with one or more cells, its lower half closely invested by the calyx. Seeds several, roundish, compressed.—Named after *Adam Lonicer*, a German botanist. 118.

1. *L. Caprifolium*. *Pale Perfoliate Honeysuckle*. Flowers gaping, whorled, terminal; upper leaves confluent and perfoliate.—A twining shrub, with smooth stem and leaves: flowers yellowish with a reddish tube, six together: berries elliptical, brownish-orange. Flowers in May and June: grows in woods and thickets: rare. Frequent about Edinburgh. *Eng. Bot.* vol. xii. pl. 799. *Eng. Fl.* vol. i. p. 326. 367.

2. *L. Periclymenum*. *Common Honeysuckle, or Woodbine*. Flowers gaping, in imbricated, terminal, egg-shaped heads; leaves all distinct.—A twining shrub, well known for the delicious odour of its flowers, which are yellowish or white, with deep-red streaks. Flowers in June and July: grows in thickets, hedges, and the clefts of rocks: common. *Eng. Bot.* vol. xii. pl. 800. *Eng. Fl.* vol. i. p. 327. 368.

3. *L. Xylostemum*. *Upright Honeysuckle*. Flower-stalks with two flowers; berries distinct; leaves entire, downy.—A shrub with an erect stem, four or five feet high: stalked, egg-shaped, acute leaves: small cream-coloured or reddish flowers, and scarlet berries. Flowers in July: grows in thickets and rocky places: rare. *Eng. Bot.* vol. xiii. pl. 916. *Eng. Fl.* vol. i. p. 327. 369.

### 34. RHAMNUS. BUCKTHORN.

Calyx inferior, of one leaf, funnel-shaped, coloured internally; limb with five, sometimes four acute, equal segments. Petals five or four, small, converging, sometimes wanting. Filaments awl-shaped, short, arising from the mouth of the calyx; anthers roundish, two-lobed. Germen roundish. Style cylindrical, short; stigma with two, three, or four lobes. Berry roundish, with two, three, or four cells. Seeds one in each cell, rounded on the outer side, flattened on the inner.—Name signifies a branch. 119.

1. *R. catharticus*. *Buckthorn*. Thorns terminal; flowers four-cleft, diœcious; leaves egg-shaped, acutely serrated; stem erect. —A shrub, with spreading branches, each ending in a sharp thorn; flowers yellowish-green; berries globular, bluish-black. The juice of the unripe berry dyes yellow. When ripe they are nauseous and violently purgative. Flowers in May: grows in thickets and hedges: common in England; rare in Scotland and Ireland. *Eng. Bot.* vol. xxiii. pl. 1629. *Eng. Fl.* vol. i. p. 329. 370.

2. *R. Frangula*. *Alder Buckthorn*. Thorns none; flowers all perfect; leaves entire. —A shrub, three or four feet high, with numerous black branches; flowers five-cleft, whitish: berries dark-purple. The berries before they are ripe dye green. Flowers in May: grows in woods and thickets, in England: frequent. *Eng. Bot.* vol. iv. pl. 250. *Eng. Fl.* vol. i. p. 329. 371.

### 35. EUONYMUS. SPINDLE-TREE.

Calyx inferior, of one leaf, deeply divided into five rounded, permanent segments. Petals five, egg-shaped, erect, shorter longer than the calyx. Filaments awl-shaped, flat, spreading, than the corolla, arising from the germen; anthers two-lobed. Germen pointed. Style short, simple; stigma obtuse. Capsule succulent, coloured, five-sided, five-cornered, five-celled, five-valved. Seeds egg-shaped, solitary, enveloped in a succulent coat. —Named after *Euonyme*, the mother of the Furies. 120.

1. *E. Europæus*. *Spindle-tree*. *Prickwood*. Flowers mostly four-cleft; branches smooth; leaves egg-shaped, pointed, serrated. —A shrub or small tree, with green, smooth bark: flowers small, greenish-white, the first only five-cleft: the fruit is violently emetic and purgative. Flowers in May: grows in hedges and thickets: frequent in England and Ireland; rare in Scotland. *Eng. Bot.* vol. vi. pl. 362. *Eng. Fl.* vol. i. p. 330. 372.

### 36. RIBES. CURRANT.

Calyx superior, of one leaf, tumid, permanent, with five oblong, spreading, marginal segments. Petals five, small, obtuse, erect, from the edge of the calyx. Filaments awl-shaped, short, erect, arising from the calyx; anthers compressed, two-lobed. Germen roundish. Style cleft; stigma obtuse. Berry globular, dimpled, one-celled, with two lateral, longitudinal receptacles. Seeds numerous, roundish, somewhat compressed. —Name given by mistake, it having been applied by the Arabian physicians to a different plant. 121.

\* *Without prickles.*

1. *R. rubrum*. *Common Currant*. Clusters smooth, pendulous; flowers nearly flat; petals inversely heart-shaped. —A bushy shrub, with a smooth deciduous cuticle: clusters simple: petals greenish-white: berries globular, red. Flowers in May: grows in woods and thickets, but seldom, if ever, truly wild. Isle of Isla, according to Lightfoot; banks of the Tees. *Eng. Bot.* vol. xviii. pl. 1289. *Eng. Fl.* vol. i. p. 331. A variety, with clusters somewhat hairy, when in flower erect, when in fruit pendulous, grows in woods, in Durham, and near Airly Castle.



*Eng. Bot.* vol. x. pl. 705. *R. petraeum*, *Rock Currant*. *Eng. Fl.* vol. i. p. 332. Another variety, called by some *R. spicatum*, *Acid Mountain Currant*, has the spikes erect, with nearly sessile flowers. It grows near Richmond, Yorkshire. *Eng. Bot.* vol. xviii. pl. 1290. *Eng. Fl.* vol. i. p. 332. 373.

2. *R. alpinum*. *Tasteless Mountain Currant*. Clusters erect, both in flower and in fruit; bractees longer than the flowers; leaves shining on the back.—A shrub with erect branches, greenish, sometimes dioecious flowers, and scarlet, insipid berries: flowers in May: grows in thickets: rare. *Eng. Bot.* vol. x. pl. 704. *Eng. Fl.* vol. i. p. 333. 374.

3. *R. nigrum*. *Black Currant*. Clusters hairy, pendulous, with a separate single-flowered stalk at the base of each; flowers bell-shaped; leaves glandular.—A shrub with erect branches, pale-green flowers, and globular, black berries. According to Dr. Withering, the petals sometimes change into stamens: the leaves are astringent, as are the berries in a slight degree, on which account they are used for sore throats. Flowers in May: grows in wet hedges and on the banks of rivers: frequent. *Eng. Bot.* vol. xviii. pl. 1291. *Eng. Fl.* vol. i. p. 333. 375.

\*\* *Furnished with prickles.*

4. *R. Grossularia*. *Common Gooseberry*. Branches with prickles under the buds, otherwise smooth; flowers bell-shaped, on simple drooping stalks; segments of the calyx reflected, shorter than the tube.—A bushy shrub, with three-lobed leaves, greenish flowers, and green berries, rough with scattered hairs. The uses to which the berries of this and other species of the genus are applied, being so generally known, it is unnecessary to mention. Flowers in May: grows in hedges, thickets, waste ground, and on old buildings, but scarcely native. *Eng. Bot.* vol. xxix. pl. 2057. *Eng. Fl.* vol. i. p. 334. 376.

### 37. HEDERA. Ivy.

Calyx very small, of five teeth, surrounding the germen. Petals five, oblong, spreading. Filaments awl-shaped, erect, as long as the petals; anthers cleft at the base. Germen turbinate, surrounded by the ring-like receptacle of the flower. Style very short; stigma simple. Berry globular, one-celled. Seeds from three to five, large, oblong, convex on the outer, angular on the inner side.—Name doubtful. 122.

1. *H. Helix*. *Common Ivy*. Leaves with five angular lobes, those of the flowering branches egg-shaped.—Stem branched, climbing and clinging by small lateral fibres: leaves tough, shining: flowers in umbels: berries black. A shrub: flowers in October: grows in woods and hedges, on old buildings, and on rocks: common. *Eng. Bot.* vol. xviii. pl. 1267. *Eng. Fl.* vol. i. p. 335. 377.

### 38. ILLECEBRUM. KNOT-GRASS.

Calyx inferior, five-cornered, of five-coloured, cartilaginous, permanent leaves. Corolla none. Filaments hair-like, shorter than the calyx, with five intermediate scales or bristles; anthers simple. Germen egg-shaped, acute. Style short; stigma obtuse. Capsule roundish, pointed at both ends, one-celled, five-

valved. Seed solitary, oval, pointed at both ends, filling the capsule.—Name from *illecebra*, an enticement. 123.

1. *I. verticillatam*. *Whorled Knot-grass*. Flowers in whorls, without bracteas; stems procumbent.—Leaves small, egg-shaped, acute: flowers small, white or reddish. A small plant, with spreading and procumbent stems. Perennial: flowers in July: grows in marshy ground in Cornwall and Devonshire. *Eng. Bot.* vol. xiii. pl. 895. *Eng. Fl.* vol. i. p. 336. 378.

### 39. GLAUX. SEA MILKWORT.

Calyx inferior, of one leaf, coloured, bell-shaped, deeply divided into five obtuse, spreading, recurved, permanent segments. Corolla none. Filaments awl-shaped, erect, as long as the calyx. Stigma knobbed. Capsule globular, pointed, one-celled, five-valved. Seeds five, roundish, attached to a large, globular, central receptacle, marked with pits.—Named from *glaucos*, grey. 124.

1. *G. maritima*. *Sea Milkwort*. *Black Saltwort*.—Root of long fibres: stem from two to eight inches high, erect, branched, smooth: leaves oblong, smooth, fleshy: flowers axillar, solitary, flesh-coloured. Perennial: flowers in June and July: grows on the sea-shore, in muddy places: common. *Eng. Bot.* vol. i. pl. 13. *Eng. Fl.* vol. i. p. 337. 379.

### 40. THE'SIUM. TOAD-FLAX.

Calyx superior, of one leaf, internally coloured, divided half way into five spreading segments, permanent. Corolla none. Filaments awl-shaped, erect, short; anthers roundish. Germen roundish, ribbed. Style thread-shaped, as long as the stamens; stigma cleft. Drupe oblong, angular, dry, leathery, crowned by the closed calyx. Nut roundish.—Name doubtful. 125.

1. *T. linophyllum*. *Bastard Toad-flax*. Cluster branched; bracteas three together; leaves lance-shaped, inclining to linear; tube of the calyx very short.—Stem spreading, angular, from three to five inches high: calyx whitish, irregularly notched between the segments. Perennial: flowers in July: grows in elevated pastures, in England: rare. *Eng. Bot.* vol. iv. pl. 247. *Eng. Fl.* vol. i. p. 338. 380.

### 41. VIN'CA. PERIWINKLE.

Calyx inferior, of one leaf, deeply divided into five erect, acute, permanent segments. Corolla of one petal, salver-shaped; tube longer than the calyx, cylindrical below, dilated and marked with five grooves above, five-sided at the mouth; limb horizontal, deeply divided into five oblique, abrupt segments, attached to the top of the tube. Filaments short; first bent inwards and then outwards; anthers membranous, obtuse, erect, incurved with the pollen at the margin. Germens two, roundish, accompanied by two roundish lateral glands. Style one, common to both germens, cylindrical, shorter than the tube; stigma knobbed, seated on a round, flat disk. Follicles two, cylindrical, acute, erect. Seeds several, oblong, cylindrical.—Name doubtful. 126.

1. *V. minor*. *Lesser Periwinkle*. Stems procumbent; leaves between lance-shaped and elliptical, smooth on the margin; flowers stalked; segments of the calyx lance-shaped.—Flowering branches erect: flowers solitary, bright-blue. Perennial: flowers in May: grows on banks and in hedges: rare. *Eng. Bot.* vol. xiii. pl. 917. *Eng. Fl.* vol. i. p. 339. 381.

2. *V. major*. *Great Periwinkle*. Stems ascending; leaves egg-shaped, fringed; flowers stalked; segments of the calyx linear, elongated.—Flowers pale-blue, nearly twice the size of those of the former species. Perennial: flowers in May: grows in woods: rare, and not indigenous. *Eng. Bot.* vol. viii. pl. 514. *Eng. Fl.* vol. i. p. 340. 382.

## DIGYNIA.

### 42. HERNIARIA. RUPTURE-WORT.

Calyx inferior, of one leaf, internally coloured, deeply divided into five acute, spreading, permanent segments. Corolla none. Filaments awl-shaped, shorter than the calyx, with five intermediate imperfect ones; anthers five, two-lobed. Germen egg-shaped. Styles very short; stigmas pointed. Capsule membranous, one-celled. Seed solitary, roundish, pointed, filling the capsule.—Named from *hernia*, rupture. 127.

1. *H. glabra*. *Smooth Rupture-wort*. Herbaceous; leaves and calyx smooth.—Root tapering: stems prostrate, much branched: leaves inversely egg-shaped, on short stalks, glabrous: flowers small, green, in dense clusters. Perennial: flowers in July and August: grows in sandy ground, in the south of England. *Eng. Bot.* vol. iii. pl. 206. *Eng. Fl.* vol. ii. p. 8. When the leaves are ciliated, it is the *H. ciliata*, *Ciliated Rupture-wort*, of some botanists. 383.

### 43. CHENOPODIUM. GOOSE-FOOT.

Calyx inferior, of one leaf, deeply divided into five egg-shaped, concave, permanent segments, membranous at the edges. Corolla none. Filaments awl-shaped, as long as the calyx; anthers roundish, two-lobed. Germen round, depressed. Styles short; stigmas obtuse. Seed solitary, round, flattened, enveloped by the permanent, five-cornered calyx.—Name from *chen*, a goose, and *pous*, a foot. 128.

#### \* *Leaves angular.*

1. *Ch. Bonus Henricus*. *Mercury Goose-foot*. *Good Henry*. Leaves triangular, arrow-shaped, entire; spikes terminal and axillar, compound, leafless.—Root fleshy, branched: stems a foot high, furrowed, leafy. Perennial: flowers in May and June: grows in waste ground, and by roads, near houses: frequent. *Eng. Bot.* vol. xv. pl. 1033. *Eng. Fl.* vol. ii. p. 10. 384.

2. *Ch. intermedium*. *Upright Goose-foot*. Leaves triangular, toothed; clusters very long, straight, approaching the stem, nearly leafless.—Root fibrous: stem erect, two feet high, angular, furrowed: leaves stalked: clusters axillar and terminal, erect, shorter than the leaves: seed five times as large as that of the following

species. Annual: flowers in August and September: grows on dunghills and waste places: common. *Eng. Bot.* vol. x. pl. 717. *C. urbicum.* *Eng. Fl.* vol. ii. p. 10. 385.

3. *Ch. rubrum.* Leaves triangular, somewhat diamond-shaped, deeply toothed and sinuate; racemes erect, compound, leafy; seed very minute.—Of a darker green than the last species: stems reddish: from one to two feet high. Annual: flowers in August and September: grows on dunghills and waste ground: common. *Eng. Bot.* vol. xxiv. pl. 1721. *Eng. Fl.* vol. ii. p. 11. 386.

4. *Ch. botryodes.* Many-clustered Goose-foot. Leaves triangular, somewhat toothed, the upper ones bluntish; clusters erect, compound, leafy.—Stems spreading or prostrate: leaves fleshy, frequently red. Annual: flowers in August and September: grows in sandy places near Yarmouth and at Lowestoft. *Eng. Bot.* vol. xxxii. pl. 2247. *Eng. Fl.* vol. ii. p. 11. 387.

5. *Ch. murale.* Nettle-leaved Goose-foot. Leaves egg-shaped, acute, toothed, shining; clusters panicled, cymose, leafless.—Stems erect, much branched: the whole plant of a darkish-green, and fetid. Annual: flowers in August and September: grows in waste ground, about old walls: common. *Eng. Bot.* vol. xxiv. pl. 1722. *Eng. Fl.* vol. ii. p. 12. 388.

6. *Ch. hybridum.* Maple-leaved Goose-foot. Leaves heart-shaped, pointed, with broad angular teeth; clusters panicled, cymose, divaricate, leafless.—Stem rather slender, branched: the whole plant bright-green, and fetid. Annual: flowers in August: grows in waste places: not common. *Eng. Bot.* vol. xxvii. pl. 1919. *Eng. Fl.* vol. ii. p. 12. 389.

7. *Ch. album.* White Goose-foot. Leaves mealy, egg-shaped, inclining to diamond-shaped, jagged, entire at the base, the upper ones oblong, entire; clusters branched, somewhat leafy; seed smooth.—Stem branched, furrowed: the whole plant mealy. Annual: flowers in July and August: grows in waste and cultivated ground. *Eng. Bot.* vol. xxiv. pl. 1723. *Eng. Fl.* vol. ii. p. 13. 390.

8. *Ch. ficifolium.* Fig-leaved Goose-foot. Leaves sinuated, jagged, somewhat halbert-shaped, entire at the base, the upper ones oblong, entire, seed dotted.—Greener than the last, and with narrower leaves. Annual: flowers in August and September: grows in waste ground about London and Yarmouth. *Eng. Bot.* vol. xxiv. p. 1724. *Eng. Fl.* vol. ii. p. 13. 391.

9. *Ch. glaucum.* Oak-leaved Goose-foot. Leaves all oblong, deeply waved at the edges, glaucous and mealy beneath; clusters compound, leafless.—Stems branched, spreading or prostrate. Annual: flowers in August: grows in waste ground, about London. *Eng. Bot.* vol. xxi. pl. 1454. *Eng. Fl.* vol. ii. p. 14. 392.

\*\* Leaves undivided and entire at the margin.

10. *Ch. olidum.* Stinking Goose-foot. Leaves egg-shaped, inclined to diamond-shaped, entire; spikes dense, leafless.—Stems branched, spreading or prostrate: the whole plant greyish-green, mealy, greasy, and exhaling a detestable odour, like that of putrid fish. Annual: flowers in August: grows in waste ground and sand, near the sea: not unfrequent. *Eng. Bot.* vol. xxi. pl. 1480. *Eng. Fl.* vol. ii. p. 15. 393.

11. *Ch. polyspermum*. *All-seed Goose-foot*. Leaves egg-shaped, obtuse, entire; stem prostrate, cymose, leafless.—Stem scarcely branched: leaves stalked, deep grass-green. Annual: flowers in July and August: grows in waste ground: common. *Eng. Bot.* vol. xxxi. pl. 1480. *Eng. Fl.* vol. ii. p. 15. *Ch. acutifolium*, *Sharp-leaved Goose-foot*, is a variety of this plant, with erect stems and acute leaves. *Eng. Bot.* vol. xxxi. pl. 1481. *Eng. Fl.* vol. ii. p. 15. 394.

12. *Ch. maritimum*. *Sea Goose-foot*. Leaves semicylindrical, tapering; flowers axillar, sessile.—Stems erect, branched: leaves alternate, sessile. Annual: flowers in July and August: grows on the sea-shore: abundantly. *Eng. Bot.* vol. ix. pl. 633. *Eng. Fl.* vol. ii. p. 18. 395.

13. *Ch. fruticosa*. *Shrubby Saltwort*. Shrubby, erect; leaves semicylindrical, bluntish, thornless.—Stem three feet high, branched; leaves fleshy, ever-green: flowers green, with three membranous bracteas under each. Perennial: flowers in July and August: grows on the sea-coast, in the south and south-east of England: rare. *Eng. Bot.* vol. ix. pl. 635. *Salsola fruticosa*. *Eng. Fl.* vol. ii. p. 18. 396.

#### 44. BETTA. BEET.

Calyx inferior, of one leaf, deeply divided into five oblong segments, fleshy at the base, permanent. Corolla none. Filaments awl-shaped, as long as the calyx; anthers roundish, two-lobed. Germen sunk in the calyx below the receptacle of the flower, round, depressed. Styles two, sometimes three, very short; stigmas acute. Seed solitary, naked, curved, imbedded in the fleshy mass of the calyx, and covered by its segments.—Name from the Celtic *bett*, signifying red. 129.

1. *B. maritima*. *Sea Beet*. Stems procumbent; flowers in pairs.—Root thick and fleshy: stems angular, furrowed, from one to two feet long: leaves deep-green: flowers green, sessile, axillar. Perennial: flowers in August: grows on the sea-shore: not common. *Eng. Bot.* vol. iv. pl. 285. *Eng. Fl.* vol. ii. p. 17. 397.

#### 45. SALSOLA. SALTWORT.

Calyx inferior, of one leaf, deeply divided into five rounded, permanent segments. Corolla none. Filaments awl-shaped, as long as the calyx; anthers roundish, two-lobed. Germen globular. Styles two or three, united at the base; stigmas recurved. Capsule egg-shaped, one-celled, imbedded in the fleshy base of the calyx. Seed solitary, roundish, large.—Named from *sal*, salt. 130.

1. *S. Kali*. *Prickly Saltwort*. Herbaceous, decumbent; leaves awl-shaped, thorn-pointed, rough; calyx with a dilated margin.—Stem very bushy, with stiff, channelled leaves: flowers solitary, each with three leaf-like bracteas. Burnt for the alkaline salts which it contains, and which are used in the manufacture of glass. Annual: flowers in July: grows on the sea-shore, among sand. *Eng. Bot.* vol. ix. pl. 634. *Eng. Fl.* vol. ii. p. 18. 398.

#### 46. ULMUS. ELM.

Calyx inferior, of one leaf, turbinate, wrinkled, permanent; the limb divided into five, sometimes four or six, erect segments,

internally coloured. Corolla none. Filaments generally five, awl-shaped, twice as long as the calyx. Anthers erect, short, with four furrows. Germen oblong, compressed, cleft. Styles two, terminal, spreading, shorter than the stamens. Stigmas downy. Capsule membranous, round or oblong, notched at the end, one-celled. Seed solitary, roundish, slightly compressed.—Named from *ulm*. .. . 131.

1. *U. campestris*. *Common small-leaved Elm*. Leaves between egg-shaped and diamond-shaped, doubly serrate, rough; flowers nearly sessile, four-cleft, with four stamens; capsule oblong, deeply cleft.—A large tree, with rugged bark, and spreading branches: flowers in numerous round, purplish tufts, each with a fringed bractea at the base. Flowers in March and April: grows in woods, in the south of England: common. The wood is hard and rough, and is used for axle-trees, mill-wheels, chairs, coffins, &c. *Eng. Bot.* vol. xxvii. pl. 1886. *Eng. Fl.* vol. ii. p. 20. 399.

2. *U. montana*. *Broad-leaved or Wych Elm*. Leaves doubly serrate, pointed, rough; flowers stalked, tufted, five or six-cleft, with five or six stamens; capsule round, slightly cleft.—A large spreading tree, with large, broadly elliptical leaves. Flowers in March and April: grows in woods, in England and Scotland: common. *Eng. Bot.* vol. xxvii. pl. 1887. *Eng. Fl.* vol. ii. p. 22. 400.

3. *U. glabra*. *Smooth-leaved Elm*. Leaves doubly serrate, smooth, oblong; flowers nearly sessile, five-cleft; capsule inversely egg-shaped, deeply cleft.—A large tree, with smooth branches and leaves. Flowers in March: grows in woods, in England. *Eng. Bot.* vol. xxxii. pl. 2248. *Eng. Fl.* vol. ii. p. 23. 401.

4. *U. stricta*. *Cornish Elm*. Leaves inversely egg-shaped, wedge-shaped at the base, with an elongated point, doubly crenate-serrate, leathery, smooth and shining above.—A large tree, with bright-brown, smooth, rigid, erect branches: grows in Cornwall and North Devon. Lindley, *Synopsis*, p. 227. *Brit. Fl.* 4th ed. p. 127. 402.

As the species of this difficult genus are far from being satisfactorily determined, it has been judged expedient to omit three or four alleged species, as they are probably mere varieties of *U. campestris* and *montana*, to which they are referred by some botanists.

#### 47. CUSCUTA. DODDER.

Calyx inferior, of one leaf, cup-shaped, deeply divided into five, sometimes four, broad, permanent segments, its base fleshy. Corolla of one petal, with an elliptical tube, the limb divided into five, sometimes four, deep, spreading, equal, segments. Filaments five or four, awl-shaped, erect, shorter than the corolla, sometimes with a scale at the base; anthers roundish, two-lobed. Germen roundish. Styles two, sometimes one or three, shorter than the corolla, spreading; stigma simple or knobbed. Capsule membranous, elliptical, two-celled. Seeds two in each cell, large, inversely egg-shaped, erect. Name supposed from the Arabic *Keshout*. 132.

1. *C. Europæa*. *Greater Dodder*. Heads of many flowers; sta-

mens without a scale at the base; styles included; corolla with a cylindrical tube longer than the close-pressed calyx.—Parasitic on nettles, thistles, flax, and other plants: stem long, thread-like, red, branched, twining: flowers in dense round heads, pale-coloured. Annual: flowers in August and September: not frequent. *Eng. Bot.* vol. vi. pl. 378. *Eng. Fl.* vol. ii. p. 24. 403.

2. *C. epilinum.* *Flax Dodder.* Heads of about five fleshy flowers; styles included; corolla with a round tube scarcely longer than the spreading, bell-shaped calyx.—Parasitic on flax: distinguished from the preceding by the flowers being fewer in a head, and much more fleshy. Annual: flowers in August and September: discovered by Mr. J. E. Bowman at Ellesmere, on flax, among which it is supposed to have been introduced from the continent. *Brit. Fl.* 4th ed. p. 109. 404.

3. *C. epithymum.* *Lesser Dodder.* Heads of many small flowers; stamens with a notched scale at the base; styles projecting from the flower; corolla with a straight tube, shorter than the funnel-shaped calyx.—Parasitic on furze, heath, thyme, and other plants: stem thread-like, twisted: flowers white. Whole plant smaller than the two preceding. Annual: flowers in July and August: frequent. *Eng. Bot.* vol. i. pl. 55. *Eng. Fl.* vol. ii. p. 25. 405.

#### 48. GENTIANA. GENTIAN.

Calyx inferior, of one leaf, divided into five, sometimes four, oblong, acute, permanent segments. Corolla of one petal; tubular in its lower part, the limb deeply divided into five, sometimes four, equal segments. Filaments four or five, awl-shaped, shorter than the corolla; anthers oblong. Germen oblong, nearly cylindrical, pointed. Styles short, erect; stigmas flat, egg-shaped. Capsule oblong, or elliptical, cylindrical, pointed, slightly cleft, two-valved, one-celled. Seeds numerous, small, compressed, attached to the inflexed edges of the valves.—Named after *Gentius*, a king of Illyria. 133.

1. *G. Pneumonanthe.* *Marsh Gentian.* Corolla bell-shaped, five-cleft; flowers stalked; leaves linear.—Stems simple, square, from four to ten inches high: leaves sessile, obtuse: flowers large, few on each stem: corolla deep-blue, with five prominent, pale-greenish angles. Perennial: flowers in August and September: grows in moist pastures and marshes, in Norfolk and the North of England: not common. *Eng. Bot.* vol. i. pl. 20. *Eng. Fl.* vol. ii. p. 27. 406.

2. *G. verna.* *Spring Gentian.* Corolla salver-shaped, crenate, five-cleft; segments lobed at the base; leaves egg-shaped, crowded.—Stems short, each bearing a single blue flower. Perennial: flowers in April: grows in mountainous pastures: rare. Found in Teesdale Forest abundantly, by the Rev. J. Harriman and Mr. Oliver, and in various parts of Ireland. *Eng. Bot.* vol. vii. pl. 493. *Eng. Fl.* vol. ii. p. 29. 407.

3. *G. nivalis.* *Small Alpine Gentian.* Corolla funnel-shaped, five-cleft, with notched intermediate segments; branches alternate, one-flowered.—Stem erect, from one to four inches high, bearing from two to ten flowers: leaves small, elliptical, acute: corolla bright-blue, with a greenish tube. Annual: flowers in August:

found on Ben Lawers by Mr. Dickson, Glen Isla, Clova. *Eng. Bot.* vol. xiii. pl. 896. *Eng. Fl.* vol. ii. p. 30. 408.

4. *G. Amarélla*. *Autumnal Gentian*. Corolla salver-shaped, five-cleft; bearded at the mouth; calyx with five equal segments. —Stem from six inches to a foot high, square, erect, panicle, bearing numerous purplish-blue flowers. Annual: flowers in August and September: grows in pastures: common. *Eng. Bot.* vol. iv. pl. 236. *Eng. Fl.* vol. ii. p. 30. 409.

5. *G. campestris*. *Field Gentian*. Corolla salver-shaped, four-cleft, bearded at the mouth; two outer segments of the calyx egg-shaped, very large. —Stem from two to six inches high, with egg-shaped, acute leaves, and purplish-blue flowers. Annual: flowers in September and October: grows in dry pastures: common in Scotland, especially the Hebrides. *Eng. Bot.* vol. iv. pl. 237. *Eng. Fl.* vol. ii. p. 31. 410.

#### 49. ERYNGIUM. ERYNGO.

Flowers aggregate. Common receptacle conical, scaly, many-flowered, each flower having an acute, simple, or three-cleft scale. Calyx of each flower superior, of five, pointed, equal, erect leaves. Petals five, equal, oblong, channelled, taper-pointed, inflected about the middle. Filaments hair-like, straight, longer than the corolla; anthers roundish. Germen oblong, covered with erect bristles. Styles thread-like, straight, nearly erect, shorter than the stamens; stigmas simple. Fruit egg-shaped, bristly, separable into two parts. Seeds oblong, nearly cylindrical, coated. —Name *eryngion* of Dioscorides. 134.

1. *E. maritimum*. *Sea Eryngo*. Root-leaves roundish, plaited, thorny; heads of flowers stalked; scales of the receptacle three-cleft. —Root long, cylindrical: stem a foot high, round, branched; petals bright-blue. The roots are considered stimulating and restorative. Perennial: flowers in July and August: grows in sand on the sea-shore. *Eng. Bot.* vol. x pl. 718. *Eng. Fl.* vol. ii. p. 35. 411.

2. *E. campestre*. *Field Eryngo*. Root-leaves twice or thrice pinnatifid; scales of the receptacle undivided. —More bushy and slender than the last: petals purplish. Perennial: flowers in July and August: grows in waste ground, near the sea: very rare: naturalized near Plymouth, and at Lismore, Waterford, Ireland. *Eng. Bot.* vol. i. pl. 57. *Eng. Fl.* vol. ii. p. 35. 412.

#### 50. HYDROCO'TYLE. WHITE-ROT.

Flowers all perfect and regular. Calyx none. Petals five, equal, egg-shaped, undivided, spreading. Filaments awl-shaped, spreading, shorter than the corolla; anthers roundish. Germen round, compressed, ribbed, smooth. Styles cylindrical, spreading, tumid at the base, shorter than the stamens, permanent; stigmas simple. Fruit round, compressed, crowned with the permanent styles. Seeds hemispherical, tumid, each with prominent angles. —Named from *hydor*, water, and *cotyle*, a cup. 135.

1. *H. vulgaris*. *Marsh Penny. White-rot*. Leaves round, shield-shaped, smooth, cleft at the base; umbels somewhat aggregate;



flowers nearly sessile.—Stems slender, smooth, creeping, with clusters of stalked leaves, and axillar flower-stalks, bearing a simple umbel, with small white flowers. Perennial: flowers in June and July: grows in boggy places, and the edges of lakes and rivulets: common. *Eng. Bot.* vol. xi. pl. 751. *Eng. Fl.* vol. ii. p. 96. 413.

### 51. SANICULA. SANICLE.

Flowers separated, the central barren, the marginal fertile, without stamens. Calyx superior; of the barren flowers small, five-leaved, acute; of the fertile larger, nearly equal. Petals of the barren flowers five, nearly equal, lance-shaped, inflected, channelled, compressed; of the fertile deciduous or wanting. Filaments hair-like, spreading, twice as long as the petals; anthers roundish. Germen roundish, bristly. Styles reflected, awl-shaped, permanent; stigmas acute. Fruit egg-shaped, acute, covered with hooked bristles, separable into two. Seeds convex on the outer, flat on the inner side.—Name from *sano*, to heal. 136.

1. *S. Europeæa*. *Wood Sanicle*. Root-leaves simple; flowers all nearly sessile.—Stems about a foot long, ascending, slightly branched: umbels numerous, in an irregular, compound panicle: flowers cream-coloured, tinged with red. Perennial: flowers in May: grows in woods: common. *Eng. Bot.* vol. ii. pl. 98. *Eng. Fl.* vol. ii. p. 36. 414.

### 52. CAUCALIS. BUR-PARSLEY.

Flowers imperfectly separated, irregular; the outermost fertile. Calyx superior, of five broad, acute, unequal, permanent leaves. Petals unequal, inversely heart-shaped, with an inflected point. Filaments awl-shaped, shorter than the corolla; anthers roundish. Germen oblong, bristly. Styles awl-shaped, much shorter than the corolla, tumid at the base, permanent; stigmas abrupt. Fruit oblong. Seeds four-ribbed, the ribs covered with ascending, awl-shaped, hooked prickles, flat and close on the inner side.—Named from *ceo*, to lie along, and *caulos*, a stem, from its procumbent habit. 137.

1. *C. daucoides*. *Small Bur-parsley*. Umbels three-rayed, without general involucre bractes; partial umbels with three bractes, ripening about three fruits; leaves repeatedly subdivided.—Stem two feet high, deeply furrowed, smooth, hairy at the joints; partial umbels of two or three fertile flowers with several barren; petals white or reddish. Annual: flowers in June: grows in corn-fields in England: not common. *Eng. Bot.* vol. iii. pl. 197. *Eng. Fl.* vol. ii. p. 41. 415.

2. *C. latifolia*. *Great Bur-parsley*. Umbels three-rayed with membranous bractes; partial umbels ripening about five fruits; leaves pinnate.—Stem three feet high, covered with minute prickles: petals bright rose-colour. Annual: flowers in July: grows in corn-fields in England: rare. Abundant in Cambridgeshire. *Eng. Bot.* vol. iii. pl. 198. *Eng. Fl.* vol. ii. p. 41. 416.

### 53. TORILIS. HEDGE-PARSLEY.

Flowers all perfect and fertile, slightly irregular. Calyx superior, of five short, broad, acute, nearly equal, permanent leaves.

Petals nearly equal, inversely heart-shaped, with an inflected point. Filaments hair-like, spreading; anthers roundish. Germen egg-shaped, bristly. Styles awl-shaped, somewhat spreading, much shorter than the corolla, permanent, very tumid at the base; stigmas simple. Fruit egg-shaped, crowned with the spreading styles. Seeds without ribs, covered with ascending, awl-shaped prickles, or partly with prominent granulations; their juncture channelled, close.—Name from *toreo*, to carve, in allusion to the fruit. 138.

1. *T. Anthriscus*. *Upright Hedge-parsley*. Umbels of many close rays, with many general bracteas; leaves bipinnate, with pinnatifid leaflets; branches nearly erect.—Stem erect, two or three feet high, furrowed: flowers small, white: fruit small, with incurved bristles. Annual: flowers in July: grows in hedges and waste places: common. *Eng. Bot.* vol. xiv. pl. 987. *Caucalis Anthriscus*. *Eng. Fl.* vol. ii. p. 43. 417.

2. *T. infesta*. *Spreading Hedge-parsley*. Umbels of many close rays, with scarcely any general bracteas; leaves pinnate, with pinnatifid leaflets; branches spreading.—Stem about a foot high: flowers white. Annual: flowers in July: grows in corn-fields and by way-sides: common. *Eng. Bot.* vol. xix. pl. 1314. *Caucalis infesta*. *Eng. Fl.* vol. ii. p. 43. 418.

3. *T. nodosa*. *Knotted Hedge-parsley*. Umbels lateral, simple, nearly sessile; stem prostrate; fruit partly granulated.—Stems about a foot long, rough: leaves doubly pinnate, hairy, deep glaucous green. Annual: flowers in May and June: grows in waste places and by way-sides: frequent. *Eng. Bot.* pl. 199. *Eng. Fl.* vol. ii. p. 44. 419.

#### 54. ANTHRISCUS. BEAKED-PARSLEY.

Flowers all perfect, regular. Calyx none. Petals equal, uniform, inversely heart-shaped, with a small inflected point. Filaments hair-like, spreading, as long as the corolla; anthers roundish. Germen oblong, bristly. Floral receptacle slightly bordered. Styles awl-shaped, short, erect, tumid at the base; stigmas obtuse. Fruit egg-shaped, tumid, beaked. Seeds without ribs, covered with short incurved bristles; the beak angular, naked, much shorter than the body of the fruit, crowned with the permanent styles.—Name used by Pliny. 139.

1. *A. vulgaris*. *Common Beaked-parsley*. Fruit egg-shaped, twice the length of its beak; leaves thrice pinnate, with pinnatifid leaflets.—Stem two or three feet high, erect, smooth, and glossy, swelled under the joints: flowers small, white, all perfect and fertile. Annual: flowers in May: grows in waste ground, on dry banks, and by road-sides. *Eng. Bot.* vol. xii. pl. 1818. *Scandix Anthriscus*. *Eng. Fl.* vol. ii. p. 45. 420.

#### 55. SCANDIX. NEEDLE-CHERVIL.

Flowers separated, the innermost barren. Calyx none. Petals unequal, undivided, tapering at the base, spreading. Filaments thread-shaped, spreading, as long as the corolla, anthers roundish.

Germen oblong, rough with close hair. Styles short, permanent, swelled at the base; stigmas simple, in the barren flowers obtuse. Fruit oblong, ribbed, somewhat bristly, its beak five times as long, linear, bristly, crowned with the enlarged, five-lobed, coloured, floral receptacle, surrounding the base of the styles. —Named from *sceo*, to prick, from the sharp points, to the fruit. 140.

1. *S. Pecten*. *Needle-chervil*. *Shepherd's needle*. *Venus' comb*. Fruit nearly smooth, with a beak bristly at the edges; umbels simple; leaves thrice pinnatifid, with linear acute segments. — Stem about a foot high, furrowed: umbels small, stalked: flowers white: fruit very large. Annual; flowers from June to September: grows in cultivated fields: common. *Eng. Bot.* vol. xx. pl. 1397. *Eng. Fl.* vol. ii. p. 47. 421.

#### 56. MYRRHIS. COW-PARSLEY.

Flowers imperfectly separated, the innermost barren. Calyx none. Petals somewhat unequal, uniform, inversely heart-shaped, with an inflected point. Filaments thread-shaped, spreading, as long as the petal; anthers roundish. Germen oblong, narrow, somewhat club-shaped, abrupt, smooth, slightly compressed. Styles awl-shaped, very tumid at the base; stigmas obtuse. Fruit lance-shaped, narrow, deeply furrowed, beakless, smooth; the summit crowned with the thick bases of the spreading, permanent styles. —Named from *myrrha*, myrrh. 141.

1. *M. odorata*. *Sweet Cicely*. Seeds with very sharp angles, roughish towards the summit. — Stem from two to four feet high, smooth, striated, hollow: leaves thrice pinnated, pale-green: flowers numerous, white: seeds with three very prominent angles. The whole plant is sweet and aromatic: the seeds are used in the north of England for perfuming furniture. Perennial: flowers in May: grows in pastures and by old walls, generally near houses: frequent. *Eng. Bot.* vol. x. pl. 697: *Scandix odorata*. *Eng. Fl.* vol. ii. p. 51. 422.

2. *M. temulenta*. *Rough Cow-parsley*. Seeds furrowed, nearly smooth; stem rough, swelled under the joints. — Stem from two to three feet high, solid, striated, rough with short deflected hairs, spotted with purple: flowers numerous, white. Biennial: flowers in June and July: grows in hedges and bushy places: common. *Eng. Bot.* vol. xxii. pl. 1521: *Cherophyllum temulentum*. *Eng. Fl.* vol. ii. p. 51. 423.

3. *M. aurea*. *Tawny-seeded Cow-parsley*. Seeds ribbed, nearly smooth, coloured; stems slightly swelled below the joints, hairy; leaflets sharply pinnatifid, long pointed. — Stem three feet high, angular, striated, hairy and bristly: flowers cream-coloured. Perennial: flowers in June: grows in the borders of fields, in Scotland. Between Arbroath and Montrose, and near Corstorphine. Mr. G. Don. *Eng. Bot.* vol. xxx. pl. 2103: *Cherophyllum aureum*. *Eng. Fl.* vol. ii. p. 52. 424.

4. *M. aromatica*. *Aromatic Cow-parsley*. Seeds ribbed, smooth; leaflets egg-shaped, acute, serrated, undivided. — Stems two or three feet high, striated, slightly swelled below the joints, hairy below, smooth above: flowers numerous, white, the outer fertile. Perennial: flowers in June: found by Mr. G. Don, between For-

far and Arbroath. *Eng. Bot. Suppl.* pl. 2636. *Eng. Fl.* vol. ii. p. 52. Neither this nor the preceding has been found by any person but the late Mr. Don. 425.

### 57. CILEROPHYLLUM. CHERVIL.

Flowers imperfectly separated; the innermost barren. Calyx none. Petals somewhat unequal, inversely heart-shaped, with an inflected point. Filaments thread-shaped, spreading, as long as the corolla; anthers roundish. Germen inferior, oblong, slightly compressed, smooth. Styles short, awl-shaped, tumid at the base; stigmas simple. Fruit lance-shaped, smooth, even, without furrows or ribs, with a short, angular, smooth beak, crowned by the flattened floral receptacle, upon which remain the slightly recurved styles.—Named from *chairo*, to rejoice, and *phyllon*, a leaf. 142.

1. *Ch. sativum*. *Garden Chervil*. Umbels lateral, nearly sessile; bracteas lance-shaped.—Stem round, hollow, striated, smooth: leaves twice pinnate: umbels of three or four general rays, and several partial ones: flowers white. Cultivated as a pot-herb. Annual: flowers in June: grows in waste ground: rare. *Eng. Bot.* vol. xviii. pl. 1268: *Scandix Cerefolium*. *Eng. Fl.* vol. ii. p. 48. 426.

2. *Ch. sylvestre*. *Cow-parsley*. *Cow-chervil*. Umbels terminal, stalked; bracteas egg-shaped, membranous.—Stem from two to three feet high, branched, hollow, striated or furrowed, downy: leaves thrice pinnate: petals white, in those of the marginal flowers unequal. Perennial: flowers in May and June: grows in hedges, waste places, pastures, and by walls and roads: very common. Eaten by cattle. *Eng. Bot.* vol. xi. pl. 752. *Eng. Fl.* vol. ii. p. 48. 427.

### 58. DAUCUS. CARROT.

Flowers separated; the outermost irregular and barren; inner fertile, the central one generally neutral, often coloured. Calyx obsolete. Petals inversely heart-shaped, with an inflected point, irregular. Filaments hair-like, spreading, longer than the corolla; anthers oblong. Germen inferior, egg-shaped, bristly, imperfect in the outermost and central flowers. Styles thread-shaped, spreading, dilated at the base; stigmas obtuse. Fruit oblong, compressed. Seeds with four principal ribs, having each a row of flattish, straight or hooked prickles, and rough intermediate ribs; their inner surfaces flat and closely applied.—Name *daucos* used by Dioscorides, the Greek physician. 143.

1. *D. Carota*. *Wild Carrot*. Bristles of the seed slender; leaflets pinnatifid, their segments between linear and lance-shaped, acute; umbel, having in the centre a solitary coloured flower, when in fruit concave.—Root tapering, yellow, sweet, slightly aromatic, bearing no resemblance in taste or colour to the cultivated carrot, which is said to be produced from it; stem from one to two feet high, bristly: umbels terminal, the central flower dark-purple. The roots are eaten by the Hebridians. Biennial: flowers in June and July: grows in pastures and the borders of fields: common. *Eng. Bot.* vol. xvii. pl. 1174. *Eng. Fl.* vol. ii. p. 39. 428.

2. *D. maritimus*. *Sea-coast Carrot*. Bristles of the seeds flattened; leaflets dilated, fleshy, pinnatifid, with rounded segments; umbels destitute of a central coloured flower, and convex when in seed.—Smaller than the former. Biennial: flowers in July and August: grows on the sea-coast, in the south of England, and in Ireland: not common. *Eng. Bot.* vol. xxx. pl. 2560. *Eng. Fl.* vol. ii. p. 40. 429.

## 59. BUNIUM. EARTH-NUT.

Flowers all uniform and regular, many of the innermost barren. Calyx of a few small, acute, spreading leaves. Petals equal, inversely heart-shaped, with an inflected point. Filaments thread-shaped, spreading, longer than the corolla; anthers roundish. Germen inferior, egg-shaped, ribbed, smooth. Styles awl-shaped, egg-shaped, and swelled at the base, spreading, permanent; stigmas obtuse. Fruit narrow, egg-shaped, ribbed, crowned with the partly obsolete calyx, and the permanent styles. Seeds each with three distant ribs, and intermediate furrows.—Name from *bounos*, a hill, where the plant is generally found. 144.

1. *B. flexuosum*. *Earth-nut*. *Pig-nut*. General involucrel bractes scarcely three; stem tapering and zig-zag at the base; fruit somewhat beaked; leaves thrice pinnatifid, with long acute segments.—Root a large irregular tuber: stem about a foot high: flowers white, all irregular. The root is sweet and eatable. Perennial: flowers in May and June: grows in dry pastures: common. *Eng. Bot.* vol. xiv. pl. 988. 430.

## 60. SIUM. WATER-PARSNIP.

Flowers all uniform, and generally perfect. Calyx superior, of five small, acute, unequal leaves. Petals five, equal, inversely heart-shaped, with an inflected point. Filaments thread-like, spreading, longer than the corolla; anthers roundish. Germen egg-shaped, striated. Styles cylindrical, spreading, swelling a little at the base, shorter than the petals; stigmas obtuse. Fruit egg-shaped, slightly compressed, furrowed, crowned with the permanent styles and withered calyx. Seeds tumid, convex, each five-ribbed.—Name from the Celtic *sir*, water, the genus being an aquatic one. 145.

1. *S. latifolium*. *Broad-leaved Water-parsnep*. Leaves pinnate, with lance-shaped, equally serrate leaflets; umbels terminal.—Stem from three to six feet high, deeply furrowed, smooth: leaves with the stalks enlarged at the base and embracing the stem: flowers numerous, white, small. Poisonous. Perennial: flowers in June and July: grows in rivers, ditches, and marshes: not common. *Eng. Bot.* vol. iii. pl. 204. *Eng. Fl.* vol. ii. p. 56. 431.

2. *S. angustifolium*. *Narrow-leaved Water-parsnep*. Leaves pinnate, with unequally lobed and serrate leaflets; umbels stalked, opposite to the leaves.—Stem about a foot high, striated, smooth: petals white, those of the outermost flowers slightly irregular. Poisonous. Perennial: flowers in July and August: grows in ditches and rivulets: common. *Eng. Bot.* vol. ii. pl. 139. *Eng. Fl.* vol. ii. p. 56. 432.

3. *S. nodiflorum*. *Procumbent Water-parsnep*. Leaves pinnate, with egg-shaped and equally serrate leaflets; umbels sessile, opposite to the leaves; stem procumbent. — Flowers small, greenish-white, with slightly inflexed petals. Perennial: flowers in July and August: grows in ditches and rivulets: not common. The juice is recommended by Dr. Withering, in cutaneous diseases. *Eng. Bot.* vol. ix. pl. 653. *Eng. Fl.* vol. ii. p. 57. Probably a variety of the next. 433.

4. *S. repens*. *Creeping Water-parsnep*. Leaves pinnate, with

places: rare. *Eng. Bot.* vol. ix. pl. 1431. *Eng. Fl.* vol. ii. p. 58. 434.

5. *S. inundatum*. *Least Water-parsnep*. Leaves pinnate, with wedge-shaped, cut leaflets; the lower leaves divided into numerous thread-like segments. — Stems procumbent or floating: umbels stalked, opposite the leaves: flowers white, all perfect. Perennial: flowers in May: grows in ditches and pools: common. *Eng. Bot.* vol. iv. pl. 227: *Sison inundatum*. *Eng. Fl.* vol. ii. p. 58. 435.

6. *S. verticillatum*. *Whorled Water-parsnep*. Leaflets all hair-like, in numerous whorled segments. — Stem about a foot high, erect, round, striated: leaves chiefly from the root: umbels few, terminal, with numerous white flowers. Perennial: flowers in July and August: grows in salt marshes and wet pastures. *Eng. Bot.* vol. vi. pl. 395. *Eng. Fl.* vol. ii. p. 59. 436.

#### 61. SISON. STONE-PARSLEY.

Flowers all uniform, perfect and regular. Calyx obsolete or bluntly toothed. Petals five, equal, elliptical or inversely heart-shaped, involute at the point. Filaments thread-like, spreading, about half as long as the corolla; anthers roundish. Germen inferior, egg-shaped, striated. Style very short and thick, each with a very large, tumid base; stigmas obtuse, distant. Fruit egg-shaped, compressed, crowned with the permanent, unaltered styles. Seeds convex, each with three ribs. — Name from *sizun*, a brook, in Celtic. 146.

1. *S. Amomum*. *Hedge Stonewort*. *Bastard Stone-parsley*. Leaves pinnate, the upper ones ternate; umbels erect, of about four general rays; bases of the styles globular. — Stem about three feet high, erect, with numerous, slender branches: flowers cream-coloured, all regular. Annual: flowers in August: grows in woods and hedges; in England, not rare. *Eng. Bot.* vol. xiv. pl. 954. *Eng. Fl.* vol. ii. p. 60. 437.

2. *S. ségetum*. *Corn-parsley*, or *Stonewort*. Leaves pinnate, with numerous roundish leaflets; umbels drooping, irregular; bases of the styles dilated, depressed. — Stems twelve or eighteen inches high, branched, round: flowers white or flesh-coloured, regular. Annual: flowers in August: grows in moist fields in England: not common. *Eng. Bot.* vol. iv. pl. 228. *Eng. Fl.* vol. ii. p. 61. 438.

#### 62. CICUTA. WATER HEMLOCK.

Flowers uniform, perfect, and nearly regular. Calyx superior, of five broad, acute, somewhat unequal leaves. Petals five, egg-

shaped, or slightly heart-shaped, with an incurved point. Filaments thread-like, spreading, as long as the corolla; anthers roundish. Germen hemispherical, ribbed. Styles thread-like, short, erect, little swelled at the base; stigmas obtuse. Fruit nearly orbicular, heart-shaped at the base, a little compressed, crowned with the permanent calyx and recurved styles. Seeds hemispherical, tumid, each with three double ribs.—Name *cicuta*, a pipe or reed, from the hollow stem. 147.

1. *C. virosa*. *Water Hemlock Water Corbane*. Leaves twice ternate; leaflets narrow lance-shaped, decurrent.—Root tuberous, hollow, with whorled fibres: stem two or three feet high, furrowed, smooth: umbels stalked: flowers white. Poisonous. Perennial: flowers in August: grows in ditches, lakes and rivers: not common. *Eng. Bot.* vol. vii. pl. 479. *Eng. Fl.* vol. ii. p. 62. 439.

### 63. ÆTHU'SA. FOOL'S-PARSLEY.

Flowers all perfect, the outer one a little irregular. Calyx superior, of five very minute, pointed, spreading leaves. Petals five, inversely heart-shaped, with an acute inflected point, the outermost rather larger. Filaments thread-shaped, horizontal, shorter than the corolla; anthers roundish. Germen egg-shaped, furrowed. Styles short, spreading, tumid and egg-shaped at the base; stigmas obtuse. Fruit egg-shaped, crowned by the reflected permanent styles. Seeds egg-shaped, with five tumid, acutely keeled ribs and deep interstices.—Named from *aithe*, to burn, from its acidity. 148.

1. *Æ. Cynapium*. *Common Fool's-parsley*. Leaves doubly pinnate; leaflets wedge-shaped, decurrent, with lance-shaped segments.—Stem a foot or more high, erect, striated, branched: umbels stalked, terminal: partial bractæ as long, acute, pendulous: flowers white. Poisonous; is sometimes mistaken for parsley, and used as such, when it occasions sickness. Annual: flowers in July and August: grows in gardens, cultivated fields, and by walls: common. *Eng. Bot.* vol. xvii. pl. 1192. *Eng. Fl.* vol. ii. p. 64. 440.

### 64. CONIUM. HEMLOCK.

Flowers all perfect, slightly irregular. Calyx obsolete. Petals five, superior, inversely heart-shaped, with an acute inflected point; the outermost rather larger. Filaments hair-like, scarcely so long as the corolla; anthers roundish. Germen egg-shaped, a little compressed, furrowed, wrinkled. Styles thread-shaped, spreading, a little swelled at the base; stigmas obtuse. Fruit egg-shaped, slightly compressed, with ten prominent, acute ribs, crowned with the dilated, undulated floral receptacle, and the spreading styles. Seeds half egg-shaped, each with five acute ribs, the interstices flat.—Name *coneion* of the Greeks. 149.

1. *C. maculatum*. *Common Hemlock*. Stem much branched, polished and spotted.—About three feet high: leaves large, repeatedly compound, with egg-shaped, pinnatifid leaflets: flowers numerous, white, all bearing seeds. The whole plant is fetid and

poisonous: it has been used in powder, extract and infusion, in cancerous diseases, and for chronic ulcers. Perennial: flowers in June and July: grows in waste ground, by walls and hedges: common. *Eng. Bot.* vol. xvii. pl. 1191. *Eng. Fl.* vol. ii. p. 65. 441.

### 65. ~~C~~ANNANTHE. DROPWORT.

Flowers more or less separated or imperfect, the outermost very irregular and abortive; the innermost smaller, regular, and producing fruit. Calyx superior, of five large, lance-shaped, acute, somewhat unequal, permanent leaves. Petals five, inversely heart-shaped, with inflected points; in the fertile flowers nearly equal; in those of the circumference very unequal. Filaments thread-shaped, longer than the corolla; anthers small, roundish. Germen oblong, furrowed. Styles awl-shaped, tumid at the base; stigmas small, obtuse, recurved. Fruit oblong or somewhat egg-shaped, with a spongy or corky bark, and three or five unequal ribs, with deep, narrow, intermediate furrows; the summit crowned with the permanent calyx and elongated styles. Seeds egg-shaped.—Named from *oine*, a vine, and *anthos*, a flower, from the vinous smell of the blossoms. 150.

1. *Æ. fistulosa*. Common Water-dropwort. Root sending out runners; stem-leaves pinnate, cylindrical, tubular; general bractæas hair-like, few, often wanting.—Stem erect, two or three feet high, hollow, smooth: root-leaves immersed, doubly pinnate, with wedge-shaped, lobed leaflets. Umbels lateral and terminal: flowers white. Perennial: flowers in July and August: grows in ditches and ponds: common. *Eng. Bot.* vol. vi. pl. 363. *Eng. Fl.* vol. ii. p. 68. 442.

2. *Æ. pimpinelloides*. Parsley Water-dropwort. Leaflets of the root-leaves wedge-shaped, cleft; of the others entire, flat, linear; general involucre bractæas linear, numerous.—Stem two feet high, hollow, striated: root-leaves twice pinnate: stem-leaves simply pinnate: flowers flesh-coloured. Perennial: flowers in July: grows in salt marshes: not unfrequent. *Eng. Bot.* vol. v. pl. 347. *Eng. Fl.* vol. ii. p. 69. 443.

3. *Æ. peucedinifolia*. Sulphur-wort, Water-dropwort. Leaflets all linear; general involucre bractæas none.—Stem three feet high, erect, solid: flowers white. Perennial: flowers in June: grows in ditches and bogs, in England: not common. *Eng. Bot.* vol. v. pl. 348. *Eng. Fl.* vol. ii. p. 70. 444.

4. *Æ. crocota*. Hemlock Water-dropwort. Leaflets all wedge-shaped, nearly uniform; fruit slender, with small intermediate ribs.—Root of many fleshy knobs: stem branched, furrowed, hollow, from two to four feet high: leaves doubly pinnate: flowers white. The root and stem, when cut, exude a yellowish juice. The whole plant is fetid and extremely poisonous. Perennial: flowers in July: grows in watery places, generally by rivulets. *Eng. Bot.* vol. xliiii. pl. 2313. *Eng. Fl.* vol. ii. p. 71. 445.

5. *Æ. Phellandrium*. Fine-leaved Water-dropwort. Leaves all uniform, with narrow, wedge-shaped, divaricate segments; fruit egg-shaped, with five broad ribs and narrow intermediate furrows.—Root spindle-shaped: stem from two to three feet high: flowers



white. Perennial: flowers in June and July: grows in rivers and ditches: frequent. *Eng. Bot.* vol. x. pl. 684. *Eng. Fl.* vol. ii. p. 71. 446.

#### 66. CRITH'MUM. SAMPHIRE.

Flowers all regular, perfect and fertile. Calyx superior, of five small, broad, acute, inflected, permanent leaves. Petals five, equal, elliptical, incurved, broad at the base. Filaments thread-shaped, spreading, as long as the corolla; anthers roundish. Germen elliptical, furrowed. Styles very short and thick, tumid at the base; stigmas obtuse. Fruit elliptical, crowned by the permanent calyx and styles. Seeds oblong, convex, with a thick leathery coat, each with five ribs; the interstices narrow, flat.—Named from *crithe*, barley, from the shape of the fruit. 151.

1. *C. maritimum*. *Sea-Samphire*. Leaflets lance-shaped, fleshy; bractæ egg-shaped.—Stems about a foot high, round, leafy: leaves twice ternate: flowers white. The whole plant is glaucous, smooth, fleshy, with a salt aromatic flavour, and is used as a pickle. Perennial: flowers in August: grows on rocks by the sea: not unfrequent in England; rare in Scotland. *Eng. Bot.* vol. xii. pl. 819. *Eng. Fl.* vol. ii. p. 73. 447.

#### 67. SMYR'NIUM. ALEXANDERS.

Flowers nearly uniform and regular, the innermost barren. Calyx superior, of five very minute, acute, permanent leaves. Petals five, equal, lance-shaped, incurved. Filaments hair-like, as long as the corolla; anthers roundish. Germen egg-shaped, angular and furrowed. Styles thread-shaped, spreading, tumid, and somewhat depressed at the base; stigmas simple. Fruit roundish, ribbed, crowned with the styles or their bases. Seeds with three prominent, acute ribs; the interstices convex.—Named from *smyrna*, myrrh, from the scent of the juice. 152.

1. *S. Olusatrum*. *Alexanders*. Stem-leaves ternate, stalked, serrate.—Root fleshy, branching: stem two or three feet high, solid, branched: lower leaves twice ternate: flowers small, white, bitter, and aromatic: formerly cultivated for culinary purposes. Biennial: flowers in May: grows in waste ground, about ruins, and on rocks near the sea: frequent. *Eng. Bot.* vol. iv. pl. 230. *Eng. Fl.* vol. ii. p. 74. 448.

#### 68. A'PIUM. WILD-CELERY.

Flowers uniform, nearly regular, almost all perfect and fertile. Calyx obsolete. Petals five, superior, roundish, with an inflected point, all nearly equal. Filaments thread-shaped, as long as the corolla; anthers roundish. Germen nearly globular. Styles thread-shaped, reflected, greatly swelled at the base; floral receptacle round, flattened; stigmas obtuse. Fruit egg-shaped or round, slightly compressed, crowned with the withered receptacle and spreading styles. Seeds egg-shaped, with acute ribs, the interstices flat.—Name from the Celtic *apon*, water. 153.

1. *A. graveolens*. *Wild celery*. Leaflets of the stem-leaves wedge-shaped; stem furrowed.—Stems two feet long, spreading or floating:

leaves pinnate or ternate: flowers small, numerous, greenish-white. Biennial: flowers in August and September: grows in ditches and marshy ground: not unfrequent. Rare in Scotland. Fetid, acrid, and noxious: becoming mild by cultivation. *Eng. Bot.* vol. xvii. pl. 1210. *Eng. Fl.* vol. ii. p. 76. 449.

#### 69. *ÆCOPODIUM*. GOUT-WEED.

Flowers all perfect and fertile, the outermost slightly irregular. Calyx none. Petals inversely heart-shaped, broad, with an inflected point; the outer one, in the marginal flowers, a little larger. Filaments thread-shaped, spreading as long as the petals; anthers roundish. Germen roundish, furrowed. Styles at first short, erect, tumid and egg-shaped at the base; afterwards thread-shaped, elongated, reflected; stigmas knobbed. Fruit elliptical, slightly compressed, crowned with the reflected styles. Seeds oblong, slightly incurved, each with five prominent ribs; the interstices nearly flat.—Name from *aix*, a goat, and *pous*, a foot, from the supposed resemblance of the leaves to the foot of that animal. 154.

1. *Æ. Podagraria*. Gout-weed. Herb Gerarde.—Stem from one to two feet high, erect, hollow, furrowed: lower leaves twice ternate, stalked: upper ternate and nearly sessile: leaflets egg-shaped, serrated, smooth, dark-green: umbels large: flowers crowded, white. Perennial: flowers in May and June: grows in shady places, churchyards, and rich cultivated ground: common. *Eng. Bot.* vol. xiv. pl. 940. *Eng. Fl.* vol. ii. p. 77. 450.

#### 70. *IMPERATORIA*. MASTERWORT.

Flowers all perfect and fertile, the outermost very slightly irregular. Calyx none. Petals inversely heart-shaped, with an incurved point. Filaments thread-shaped, spreading longer than the petals; anthers globular. Germen inferior, round, compressed, ribbed. Styles short, distant, egg-shaped, very tumid at the base. Fruit round, crowned with the bases of the styles, having a hollow above and below, and a rounded, dilated margin. Seeds convex, with three prominent ribs, and a broad flat border.—Name from *imperator*, a commander, from its medicinal virtues. 155

1. *I. Ostruthium*. Great Masterwort. Lower leaves twice ternate upper three-lobed.—Root fleshy: stem from one to two feet high erect, hollow, striated: umbels of about forty general rays: flower small, white. The root is warm and aromatic, and has been used for various purposes. Perennial: flowers in June: grows in various places in Scotland: rare, and not truly wild. *Eng. Bot.* vol. xx. pl. 1380. *Eng. Fl.* vol. ii. p. 78. 451.

#### 71. *ANGE'LICA*. ANGELICA.

Flowers all perfect, fertile and regular. Calyx none. Petals five, superior, equal, lance-shaped, flattish, with an inflected point, their base narrow. Filaments thread-shaped, spreading, longer than the corolla; anthers roundish. Germen egg-shaped, strongly furrowed. Styles at first very short, erect, broad and

tumid at the base; afterwards elongated and recurved; stigmas knobbed; floral receptacle thin, waved, ultimately projecting a little beyond the bases of the styles. Fruit elliptical, slightly compressed, bordered, crowned with the floral receptacle and styles. Seeds oblong, with three longitudinal wings, and a flat border; the interstices wrinkled.—Named *angelic* on account of its supposed properties. 156.

1. *A. Archangelica*. *Garden Angelica*. Terminal leaflet lobed.—Root large, fleshy, aromatic. Stem erect, four or five feet high, striated, polished: umbels globular. Biennial: flowers from June to September: grows in watery places: rare, and apparently naturalized. *Eng. Bot.* pl. 2561. *Eng. Fl.* vol. ii. p. 81. 452.

2. *A. sylvestris*. *Wild Angelica*. Leaflets equal, egg-shaped, serrate.—Stem three feet high, round, polished, with spreading branches: leaves twice pinnate, smooth: umbels convex, with numerous general and partial rays: bractees slender: flowers white. Bitter and aromatic. Perennial: flowers in July: grows in watery places, and moist woods: common. *Eng. Bot.* vol. xvi. pl. 1128. *Eng. Fl.* vol. ii. p. 81. 453.

## 72. LIGUSTICUM. LOVAGE.

Flowers all perfect, fertile and regular. Calyx superior, of five small, pointed, erect, permanent leaves, broad at the base. Petals five, elliptical, flattish, with an inflected point, their base narrow. Filaments thread-shaped, spreading, shorter than the corolla; anthers roundish. Germen oblong, abrupt, furrowed. Styles at first short, erect, angular, swelled at the base; afterwards a little elongated, spreading; stigmas simple. Fruit oblong, somewhat compressed, crowned with the calyx and styles. Seeds oblong, each with five longitudinal wings.—Named from *Liguria*, where one species abounds. 157.

1. *L. Scoticum*. *Scottish Lovage*. Leaves twice ternate.—Root fleshy, tapering. Stem a foot high, striated, smooth: leaves stalked, the uppermost ternate, the leaflets broad, smooth, serrate, entire at the base, dark-green: flowers white, with a reddish tinge. The root is acrid, and is occasionally chewed by the Hebridians as a substitute for tobacco. Perennial: flowers in July: grows on the sea-coast: very abundant in Scotland. *Eng. Bot.* vol. xviii. pl. 1207. *Eng. Fl.* vol. ii. p. 82. 454.

2. *L. Cornubiense*. *Cornish Lovage*. Root-leaves twice or thrice pinnate, rough-edged, cut; stem-leaves ternate, lance-shaped, entire.—Root tapering: stem two or three feet high, erect, roughish, striated: petals white. Perennial: flowers in July: grows in bushy fields in Cornwall. *Eng. Bot.* vol. x. pl. 683. *Eng. Fl.* vol. ii. p. 82. 455.

## 73. MEUM. MEU.

Flowers all uniform, perfect and fertile. Calyx none. Petals five, superior, equal, inversely egg-shaped, with an inflected point. Filaments thread-like, spreading, incurved, as long as the petals; anthers roundish. Germen egg-shaped, striated, abrupt, a little compressed. Styles at first very short, tumid at the base, afterwards a little elongated and recurved; stigmas simple. Fruit

elliptical, very slightly compressed, contracted at the summit, and crowned with the styles. Seeds convex, with five prominent ribs, the interstices nearly flat and even; their juncture nearly as broad as themselves.—Name *meon* used by Dioscorides. 158.

1. *M. athamanticum*. *Spiguel. Mev. Bald-money*. Leaflets all in numerous hair-like segments; general and partial involucre bracteas.—Root thick and woody, with the fibrous remains of the old leaf-stalks adhering to it: stems from one to two feet high: leaves doubly pinnate: flowers yellowish-white. The whole plant, especially the root, highly aromatic. Perennial: flowers in May and June: grows in hilly pastures in the north of England and the Highlands of Scotland: frequent. *Eng. Bot.* vol. xxxii. pl. 2249. *Eng. Fl.* vol. ii. p. 84. 456.

2. *M. Feniculum*. *Common Fennel*. Leaves thrice pinnate: leaflets awl-shaped, drooping; no bracteas.—Stem three or four feet high, erect, much branched, striated, smooth: umbels terminal, very broad: flowers golden-yellow. Aromatic: the seeds are used as a carminative for infants. Perennial: flowers in July and August: grows on chalk cliffs in England. *Eng. Bot.* vol. xvii. pl. 1208: *Anethum Feniculum*. *Eng. Fl.* vol. ii. p. 85. 457.

#### 74. CARUM. CARAWAY.

Flowers separated, somewhat irregular; the innermost barren; those of the circumference perfect and productive. Calyx superior, of five very minute, acute leaves, often wanting. Petals five, somewhat unequal, inversely heart-shaped, with inflexed points. Filaments hair-like, straight, spreading, as long as the petals; anthers roundish. Germen egg-shaped, abrupt. Styles at first very short, tumid at the base, afterwards elongated, thread-shaped, spreading; stigmas bluntish. Floral receptacle ring-like, thin, waved, extending beyond the bases of the styles. Fruit elliptical, compressed, crowned with the receptacle and styles. Seeds nearly cylindrical, narrow at both ends, with five acute slender ribs; the interstices somewhat convex, smooth.—Name used by the Romans, and derived from *Caria*, where the plant grew. 159.

1. *C. Carui*. *Common Caraway*. Stem branched; partial bracteas none.—Root tapering: stem about two feet high, erect, angular, and furrowed: lower leaves stalked, doubly pinnate, with numerous finely cut leaflets: upper leaves opposite, very unequal: umbels numerous, erect: flowers numerous, white. Cultivated for its seeds, which are carminative. Biennial: flowers in June: grows in meadows and pastures: not common. *Eng. Bot.* vol. xxi. pl. 1503. *Eng. Fl.* vol. ii. p. 86. 458.

#### 75. ATHAMANTA. STONE-PARSLEY.

Flowers imperfectly separated, regular, the innermost abortive. Calyx superior, of five lance-shaped, acute, permanent leaves. Petals five, inversely heart-shaped, with a broad inflexed point. Filaments thread-shaped, longer than the petals; anthers roundish, egg-shaped, abrupt, downy. Styles at first short, erect, each with a tumid base; afterwards spreading; finally reflected; stigmas

bluntish. Fruit egg-shaped, slightly compressed, hairy, ribbed, crowned by the calyx and styles. Seeds egg-shaped, each with five prominent ribs. Junction close, as broad as the seeds.—Named after *Athamas*, a king of Thebes, or a mountain of the same name in Thessaly. 160.

1. *A. Libanotis*. *Mountain Stone-parsley*. Leaves doubly pinnate, cut; umbels hemispherical.—Stem from one to three feet high: flowers white. Perennial: flowers in August: grows in elevated chalky pastures in England: rare. Gogmagog Hills, Cambridgeshire. *Eng. Bot.* vol. ii. pl. 198. *Eng. Fl.* vol. ii. p. 88. 459.

#### 76. PIMPINELLA. BURNET-SAXIFRAGE.

Flowers regular, perfect or diœcious. Calyx none. Petals five, superior, equal, inversely heart-shaped, with an inflected point. Filaments hair-like, spreading, longer than the corolla; anthers roundish. Germen egg-shaped, a little compressed, smooth, finely ribbed. Styles hair-like, somewhat spreading, at first short, afterwards elongated, tumid and nearly globular at the base; stigmas obtuse. Fruit egg-shaped, crowned by the long styles. Seeds egg-shaped, each with five rather sharp ribs.—Name doubtful. 161.

1. *P. Saxifraga*. *Common Burnet-saxifrage*. Leaves pinnate; leaflets of the root-leaves roundish, of the uppermost with linear segments.—Stems from one to two feet high, striated, downy: flowers white, small. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. vi. pl. 497. *Eng. Fl.* vol. ii. p. 89. 460.

2. *P. mdgna*. *Greater Burnet-saxifrage*. Leaves pinnate, leaflets all egg-shaped, serrate, somewhat cut; the terminal one three-lobed.—Taller than the last, with white flowers. Perennial: flowers in July and August: grows in shady places and hedges in several parts of England. *Eng. Bot.* vol. vi. pl. 408. *Eng. Fl.* vol. ii. p. 90. 461.

3. *P. dioica*. *Dwarf Burnet-saxifrage*. Leaves doubly pinnate, with nearly linear leaflets; umbels paniced; flowers diœcious.—About a foot high: flowers cream-coloured. Perennial: flowers in May and June: grows on rocks in England and Ireland: rare. *Eng. Bot.* vol. xvii. pl. 1209. *Eng. Fl.* vol. ii. p. 90. 462.

#### 77. CNIDIUM. PEPPER-SAXIFRAGE.

Flowers nearly regular, imperfectly separated. Calyx none. Petals five, superior, equal, inversely egg-shaped or heart-shaped, with an inflected point. Filaments thread-shaped, spreading, as long as the petals; anthers roundish. Germen egg-shaped, slightly compressed, ribbed. Styles at first very short, afterwards elongated, spreading, cylindrical, tumid and nearly hemispherical at the base; stigmas blunt. Floral receptacle ring-shaped, thin, undulated. Fruit egg-shaped, a little compressed, crowned with the floral receptacle and spreading or recurved styles. Seeds egg-shaped, with five acute, slightly winged ribs; the interstices deep, concave.—The ancient name of an unknown plant. 162.

1. *C. Silaus*. *Meadow Pepper-saxifrage*. Leaflets deeply pinna-

tifid; their segments opposite, decurrent.—Stem erect, from one to two feet high: leaves twice pinnate: flowers yellowish-white. Perennial: flowers in August and September: grows in meadows and pastures: not rare. *Eng. Bot.* vol. xxx. pl. 2142: *Peucedanum Silaus.* *Eng. Fl.* vol. ii. p. 92. 463.

#### 78. BUPLEURUM. HARE'S-EAR.

Flowers all regular, perfect and productive. Calyx none. Petals five, superior, equal, broadish wedge-shaped, very short, with a broad involute point. Filaments thread-shaped, spreading. Anthers roundish. Germen egg-shaped, furrowed. Styles very short, spreading, with broad tumid bases. Stigmas minute, simple. Fruit egg-shaped, obtuse, a little compressed, crowned by the very short styles. Seeds somewhat cylindrical, with five prominent acute ribs; the interstices flat. Junction narrower than the seeds.—Name from *bous*, an ox, and *pleuron*, a rib. 163.

1. *B. odontites.* *Narrow-leaved Hare's-ear.* General and partial bracteas each of from four to five lance-shaped pointed leaves, longer than the umbels; leaves linear; stem paniced.—Stem about six inches high: flowers in terminal umbels. Annual: flowers in July: grows on rocks in the south of England: rare. Near Torquay, Devonshire. *Eng. Bot.* pl. 2468. *Brit. Fl.* 4th ed. p. 114. 464.

2. *B. rotundifolium.* *Common Hare's-ear, or Thorough-wax.* General bracteas none; leaves perfoliate.—About a foot high: leaves broadly egg-shaped, alternate: flowers yellow. Annual: flowers in July: grows in corn-fields in England: rare. Common in Cambridgeshire. *Eng. Bot.* vol. ii. pl. 99. *Eng. Fl.* vol. ii. p. 93. 465.

3. *B. tenuissimum.* *Slender Hare's-ear.* Umbels simple, alternate, of few flowers, with five awl-shaped bracteas.—Stem slender, from three to twelve inches high: leaves lance-shaped, erect: flowers yellowish. Annual: flowers in August and September: grows in salt marshes in the south and east of England. *Eng. Bot.* vol. vii. pl. 478. *Eng. Fl.* vol. ii. p. 94. 466.

4. *B. falcatum.* *Sickle-leaved Hare's-ear.* Radical leaves inversely egg-shaped, on long stalks; upper one sessile, between linear and lance-shaped; partial involucre of five lance-shaped leaves, as long as the flowers.—Stem erect, paniced. Perennial: flowers in August: grows by road-sides in England: very rare. Discovered by Mr. T. Corder, jun., on Norton Heath, near Ongar, Essex. *Eng. Bot. Suppl.* pl. 2763. *Brit. Fl.* 4th ed. p. 115. 467.

#### 79. SELINUM. MILK-PARSLEY.

Flowers all perfect and regular. Calyx superior, of five minute, spreading teeth. Petals involute, pointed, equal. Filaments thread-shaped, spreading; anthers roundish. Germen egg-shaped, compressed, ribbed, somewhat bordered. Styles short, afterwards elongated, reflected, flattened, their bases hemispherical; stigmas obtuse. Fruit elliptical, crowned with the calyx and styles. Seeds nearly elliptical, flattened with three longitudinal, acute ribs; the margin dilated, flat, smooth, entire. Junction broad, flat, as wide as the seeds. 164.

1. *S. palustre*. *Marsh Milk-parsley*. Leaves thrice pinnate; leaflets pinnatifid, with lance-shaped segments; rays of the umbels rough; ribs of the seeds broad and obtuse.—Stem four or five feet high, erect; umbels large: flowers numerous, white: bractees lance-shaped, deflected, with membranous margins. The whole plant abounds with a milky acrid juice. Perennial: flowers in July: grows in marshes: rare. *Eng. Bot.* vol. iv. pl. 229. *Eng. Fl.* vol. ii. p. 97. 468.

#### 80. PEUCEDANUM. SULPHUR-WORT.

Flowers regular, uniform, separated, the innermost barren. Calyx superior, of five acute, permanent teeth. Petals five, inversely heart-shaped; with inflected points. Filaments hair-like, spreading, longer than the petals; anthers roundish. Germen oblong. Styles small, recurved, tumid at the base; stigmas obtuse, notched. Fruit broadly elliptical, nearly round, compressed, crowned with the calyx and styles. Seeds broadly elliptical, notched at both ends, nearly flat, with three slightly prominent ribs, the interstices striated, the margin dilated, with a flat, entire, narrow ring. Juncture broad, flat, close.—Named from *peuce*, a pine, and *danos*, dwarf. 165.

1. *P. officinale*. *Sea Sulphur-wort*. *Hog's Fennel*. Leaves five times deeply divided into three, with linear, flat leaflets; bractees linear.—Stem three feet high: flowers yellow. The roots are fetid and acrid. Perennial: flowers in June and July: grows in salt marshes in Sussex and Essex: very rare. *Eng. Bot.* vol. xxv. pl. 1767. *Eng. Fl.* vol. ii. p. 99. 469.

#### 81. PASTINACA. PARSNEP.

Flowers regular, uniform, perfect. Calyx superior, of five very minute teeth. Petals five, broadly lance-shaped, pointed, involute. Stamens thread-shaped, spreading, as long as the petals; anthers roundish. Germen egg-shaped, obscurely striated. Styles at first very short, erect, afterwards elongated, spreading, recurved, greatly dilated at the base; stigmas knobbed. Fruit broadly elliptical, transversely compressed, crowned by the broad, round, waved, floral receptacle and the styles. Seeds broadly elliptical, with a slight notch at the top, flattish at the back, with three ribs, and two more prominent and broader ones at the circumference, their border narrow, thin, acute. Juncture close, flat, nearly as broad as the seeds.—Name from *pastus*, food. 166.

1. *P. sativa*. *Common Wild Parsnep*. Leaves simply pinnate, downy beneath.—Root spindle-shaped: stem three feet high, erect: flowers yellow, small. Biennial: flowers in July: grows at the edges of fields in England: not common. *Eng. Bot.* vol. viii. pl. 556. *Eng. Fl.* vol. ii. p. 101. 470.

#### 82. HERACLEUM. COW-PARSNEP.

Inner flowers barren; those of the circumference perfect and fertile. Calyx superior, of five small, acute teeth. Petals five, inversely heart-shaped, with one inflected point; in the innermost flowers smallest and nearly equal: in the outer much

larger, irregular, the outer one largest, and the two inner smallest. Filaments thread-shaped, longer than the corolla, spreading, a little incurved; anthers roundish. Germen egg-shaped, slightly compressed transversely. Styles at first erect, rather short, afterwards flattened, spreading, broad and pyramidal at the base; stigmas obtuse, notched; floral receptacle undulated, crenate, a little broader than the base of the styles. Fruit inversely heart-shaped, nearly flat, crowned with the floral receptacle and styles. Seeds inversely heart-shaped, deeply notched at the top; and more or less so at the base, with five ribs; four intermediate coloured lines in the interstices; the border narrow, flat. Juncture close, flat, nearly as broad as the seeds.—Named after *Hercules*. 167.

1. *H. Sphondylium*. Cow-parsnep. Hogweed. Leaves pinnate; leaflets pinnatifid, cut and serrate.—Stem about four feet high, branched, furrowed, rough with spreading hairs. One of the most important of our plants as food for domestic animals, although utterly neglected. The stem is eaten in the Hebrides. Biennial: flowers in July: grows in hedges, borders of fields and pastures: common. *Eng. Bot.* vol. xiv. pl. 939. *Eng. Fl.* vol. ii. p. 102. 471.

### 83. TORDYLIUM. HARTWORT.

Flowers separated, irregular, those of the circumference fertile. Calyx of five unequal, awl-shaped teeth. Petals five: one of the innermost flowers smallest, nearly equal and uniform, inversely heart-shaped, with an inflected point; of the circumference of the same form, the outermost largest. Filaments thread-shaped, spreading. Anthers roundish. Germen egg-shaped, rugged or bristly, transversely compressed. Styles thread-shaped, erect, swelled at the base, afterwards spreading. Stigmas simple. Fruit nearly round, transversely compressed, crowned with the tumid bases of the styles. Seeds of the same form, indistinctly striated, sometimes rough.—Name used by the Greeks. 168.

1. *T. maximum*. Great Hartwort. Leaflets lance-shaped, deeply serrated; flowers somewhat radiant, the outermost petal with equal lobes; stem rough, with close deflected bristles.—Stem three or four feet high: flowers reddish. Annual: flowers in June and July: grows in waste ground, about London and Oxford: rare. *Eng. Bot.* vol. xvii. pl. 1173. *Eng. Fl.* vol. ii. p. 105. 472.

## TRIGYNIA.

### 84. VIBURNUM. GUELDER-ROSE.

Calyx superior, minute, of one leaf, deeply divided into five segments, permanent. Corolla of one petal, bell-shaped, with five obtuse, spreading segments. Filaments awl-shaped, spreading, as long as the corolla; anthers roundish. Germen roundish. Style none; stigmas three, sessile, obtuse. Berry round-



ish, one-celled. Seed solitary, roundish, compressed.—Name doubtful. 169.

1. *V. Lantana*. *Way-faring Tree*. *Mealy Guelder-rose*. Leaves heart-shaped, serrate, veined, downy beneath.—A small tree with opposite, pliant, mealy branches: cymes broad, of numerous white flowers: berries black. The bark of the root is used for making bird-lime. Flowers in May: grows in woods and hedges: not common. *Eng. Bot.* vol. v. pl. 331. *Eng. Fl.* vol. ii. p. 107. 473.

2. *V. Opulus*. *Common Guelder-rose*. *Water Elder*. Leaves lobed, their stalks beset with glands.—A small tree, with three lobed, serrate, veined leaves: cymes large, white: several of the marginal flowers are dilated, without stamens or pistils. In the cultivated state nearly the whole cyme consists of such flowers: berries bright-red. Flowers in June: grows in woods and wet hedges: frequent. *Eng. Bot.* vol. v. pl. 332. *Eng. Fl.* vol. ii. p. 107. 474.

#### 85. SAMBU'CUS. ELDER.

Calyx superior, of one leaf, small, deeply divided into five segments, permanent. Corolla of one petal, nearly wheel-shaped, but concave, with five obtuse segments. Filaments awl-shaped, as long as the corolla; anthers roundish. Germen egg-shaped; obtuse. Style none; stigmas three, obtuse. Berry globular, one-celled. Seeds three, convex externally, angular on the inner side.—Named from *sambuce*, a musical instrument, perhaps made from the wood of this plant. 170.

1. *S. Ebulus*. *Dwarf Elder*. Cymes with three principal branches; stipules leaf-like; stem herbaceous.—Stems simple, erect, about three feet high: leaves pinnate, with lance-shaped, acute, serrate, smooth leaflets: cymes large, with purplish flowers: berries globular, black. The berry is purgative and emetic. Perennial: flowers in June: grows in woods and hedges: frequent. *Eng. Bot.* vol. vii. pl. 475. *Eng. Fl.* vol. ii. p. 108. 475.

2. *S. nigra*. *Common Elder*. Cymes with five principal branches; stipules obsolete; leaflets egg-shaped; stem woody.—A small tree, with smooth branches, filled with light spongy pith: cymes large, of numerous cream-coloured flowers: berries globular, purplish-black. The inner green bark is purgative and diuretic, as are the leaves. The berries made into rob are gently laxative: they are also used for making a kind of wine, as well as for adulterating Port. Flowers in July: grows in woods and hedges: common. *Eng. Bot.* vol. vii. pl. 476. *Eng. Fl.* vol. ii. p. 109. 476.

#### 86. STAPHYLE'A. BLADDER-NUT.

Calyx inferior, of one leaf, concave, deeply divided into five coloured segments, as long as the corolla. Petals five, oblong, erect, similar to the calyx. Nectary cup-shaped, central. Filaments thread-shaped, erect, as long as the petals; anthers roundish. Germen rather thick, with two or three deep divisions. Styles two or three, erect, a little longer than the stamens; stigmas obtuse, close together. Capsules two or three, inflated, united lengthwise. Seeds two in each capsule, globular, with a circular pit at the side, and an oblique lateral point.—Named from *staphyle*, a bunch of grapes. 171.

1. *S. pinnda*. *Common Bladder-nut*. Leaves pinnate; style and capsules only two.—A smooth-branched shrub, with numerous suckers, and pale greenish-yellow flowers. Flowers in June: grows in hedges and thickets in Yorkshire: probably not truly wild. *Eng. Bot.* vol. xxii. pl. 1560. *Eng. Fl.* vol. ii. p. 110. 477.

#### 87. TAMARIX. TAMARISK.

Calyx inferior, of one leaf, deeply divided into five obtuse, erect, permanent segments, half as long as the corolla. Petals five, inversely egg-shaped, concave, spreading. Filaments hair-like, arising from the calyx, sometimes with five intermediate ones; anthers roundish. Germen egg-shaped, pointed. Style none; stigmas three, revolute, obtuse, downy. Capsule oblong, pointed, triangular, longer than the calyx, one-celled, three-valved. Seeds numerous, minute, with a stalked feathery crown.—Named from the *Tamarisci*, a people in ancient Spain, in whose country it still abounds. 172.

1. *T. Gallica*. *French Tamarisk*. Stamens five, lateral clusters numerous; leaves lance-shaped, acute, spurred at the base; branches smooth.—A small shrub, with numerous red, shining branches; minute, scattered leaves; and clusters of reddish or white flowers. Flowers in July: grows on rocks in the south of England: rare, and probably planted. *Eng. Bot.* vol. xix. pl. 1318. *Eng. Fl.* vol. ii. p. 112. 478.

#### 88. CORRIGIOLA. STRAPWORT.

Calyx inferior, of five inversely egg-shaped, spreading, permanent leaves, as large as the corolla. Petals five, inversely egg-shaped, entire, spreading. Filaments awl-shaped, small, not half so long as the petals; anthers two-lobed. Germen egg-shaped, three-cornered. Styles three, short, spreading; stigmas obtuse. Seed solitary, large, naked, roundish, three-cornered, wrinkled, covered by the closed calyx.—Named from *corrigia*, a strap. 173.

1. *C. littoralis*. *Sand Strapwort*.—Root tapering, small: stems spreading on the ground: leaves between lance-shaped and linear, glaucous: clusters terminal and lateral: flowers numerous, white. Annual: flowers in July and August: grows on the southern coast of England: rare. *Eng. Bot.* vol. x. pl. 668. *Eng. Fl.* vol. ii. p. 113. 479.

### TETRAGYNIA.

#### 89. PARNASSIA. GRASS OF PARNASSUS.

Calyx inferior, of one leaf, deeply divided into five oblong, spreading, permanent segments. Petals five, egg-shaped, spreading, longer than the calyx, with several longitudinal ribs. Nectaries five fleshy scales, attached to the claws of the petals, fringed with a row of bristles, each bearing a small transparent globe. Filaments awl-shaped, spreading; anthers heart-shaped.

flattened. Germen egg-shaped, large. Styles none; stigmas four, obtuse, permanent. Capsule egg-shaped, four-cornered, four-celled, four-valved; receptacles four, linear, abruptly terminating the partitions, which are from the middle of each valve. Seeds numerous, oblong.—Named from Mount *Parnassus*. 174.

1. *P. palustris*. *Common Grass of Parnassus*. Leaves heart-shaped; bristles of each nectary numerous.—Stems about six inches high, angular, twisted. One of the most beautiful and elegant of our native plants. Perennial: flowers in September and October: grows in boggy places: frequent. Common in Scotland. *Eng. Bot.* vol. ii. pl. 82. *Eng. Fl.* vol. ii. p. 114. 480.

## PENTAGYNIA.

### 90. STATICE. THRIFT.

Calyx inferior, of one leaf, funnel-shaped; tube contracted; limb undivided, plaited, membranous, permanent. Corolla funnel-shaped, of five petals, contracted and united at the base, dilated upwards, obtuse, spreading. Filaments awl-shaped, shorter than the petals; anthers oblong. Germen roundish, very minute. Styles thread-shaped, spreading, permanent; stigmas acute. Capsule oblong, membranous, one-celled, one-valved, with five points; covered by the permanent calyx. Seed solitary, oblong.—Named from *statizo*, to stop, on account of its having been supposed to check dysentery. 175.

1. *S. Arméria*. *Common Thrift*. *Sea Gilliflower*. Stalks simple; flowers in a head; awns of the calyx minute; leaves linear.—Root long, branched, woody: stalks from three to nine inches high: flowers numerous, rose-coloured, forming a close head. Perennial: flowers in July and August: grows on the sea-shore, in sandy ground, and the clefts of rocks: common: also on the summits of high mountains. *Eng. Bot.* vol. iv. pl. 226. *Eng. Fl.* vol. ii. p. 115. 481.

2. *S. plantaginea*. *Plantain-leaved Thrift*. Stalks simple; flowers in a head; awns of the calyx long; leaves between linear and lance-shaped.—Distinguished from the former by its broader leaves, and the long teeth to its calyx: flowers pale-purple. Perennial: flowers in June and July: grows in the island of Jersey, where it was discovered by Mr. W. C. Trevelyan, in 1833. *Brit. Fl.* 4th ed. p. 130. 482.

3. *S. Limónium*. *Lavender Thrift*. Stalks panicled; leaves elliptical, smooth, bristle-pointed.—Root woody: leaves leathery: panicle with several close spikes of erect blue flowers. Perennial: flowers in July and August: grows on the sea-shore, in England, Ireland, and the south of Scotland: frequent. *Eng. Bot.* vol. ii. pl. 102. *Eng. Fl.* vol. ii. p. 116. 483.

4. *S. spathulata*. *Upright-spiked Thrift*. Stalks panicled with two-rowed branches and erect spikes; leaves spatulate, with a minute point from the midrib, at the tip.—Leaves leathery, three-ribbed at the base: stalk slightly waved above. Perennial: flowers

in August: grows on the sea-shore in Kent, near Whitehaven, on the Mull of Galloway, and in the north of Ireland. *Eng. Bot. Suppl.* pl. 2663. *Brit. Fl.* 4th ed. p. 130. 484.

5. *S. reticulata*. *Matted Thrift*. Stalks paniced, prostrate, zig-zag, the lower branches sterile; leaves somewhat wedge-shaped, acute. —Root woody: panicle with several spikes of purplish-blue flowers. Perennial: flowers in July and August: grows on the sea-shore in Norfolk: rare. *Eng. Bot.* vol. v. pl. 328. *Eng. Fl.* vol. ii. p. 117. 485.

### 91. LINUM. FLAX.

Calyx inferior, of five lance-shaped, erect, permanent leaves, smaller than the corolla. Petals five, oblong, obtuse, narrow below, moderately spreading. Filaments five, awl-shaped, erect, as long as the calyx, and five shorter intermediate ones; anthers arrow-shaped. Germen egg-shaped. Styles thread-shaped, erect, as long as the stamens; stigmas bluntish, spreading. Capsule nearly globular, obscurely five-sided, ten-celled, ten-valved. Seeds solitary, egg-shaped, acute, compressed, polished. —Named from the Celtic *lin*, a thread. 176.

#### \* *Leaves alternate.*

1. *L. usitatissimum*. *Common Flax*. Calyx-leaves egg-shaped, acute, three-ribbed; petals crenate; leaves lance-shaped, alternate; stem commonly solitary, erect. —Stem nearly two feet high, straight, round, corymbose at the top: flowers erect, with blue-veined petals. The uses of the fibres of the stem, and the expressed oil of the seeds, are well known. Annual: flowers in July: grows in cultivated fields, but is not indigenous. *Eng. Bot.* vol. xix. pl. 1357. *Eng. Fl.* vol. ii. p. 118. 486.

2. *L. perenne*. *Perennial Flax*. Calyx-leaves inversely egg-shaped, obtuse, obscurely five-ribbed; leaves narrow, lance-shaped, alternate; stems numerous, ascending. —Root woody: stems about a foot high: flowers blue, veined. Perennial: flowers in June and July: grows in dry pastures and meadows in England: not common. *Eng. Bot.* vol. i. pl. 40. *Eng. Fl.* vol. ii. p. 118. 487.

3. *L. angustifolium*. \* *Narrow-leaved Flax*. Calyx-leaves elliptical, three-ribbed; leaves narrow, lance-shaped, three-ribbed; stems numerous, nearly erect. —Petals pale-purple. Perennial: flowers in July: grows in sandy pastures, in England: not common. *Eng. Bot.* vol. vi. pl. 381. *Eng. Fl.* vol. ii. p. 119. 488.

#### \*\* *Leaves opposite.*

4. *L. catharticum*. *Purging Flax*. Leaves opposite, oblong; stem forked above; petals acute. —Stem thread-like, from six inches to a foot high: flowers white, at first pendulous. Bitter and purgative. Annual: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. vi. pl. 382. *Eng. Fl.* vol. ii. p. 120. 489.

### 92. SIBBALDIA. SIBBALDIA.

Calyx inferior, of one leaf, with ten elliptical, spreading, permanent, marginal segments. Petals five, inversely egg-shaped, tapering at the base. Filaments five, awl-shaped, shorter than the petals; anthers roundish. Germens five, sometimes ten,

egg-shaped, compressed. Styles from the side of each germen, as long as the stamens; stigmas obtuse. Seeds five, egg-shaped, smooth, compressed, in the bottom of the enlarged calyx, which is closed over them.—Named after *Sir Robert Sibbald*, a Scottish naturalist. 177.

1. *S. procumbens*. *Procumbent Sibbaldia*. Leaves ternate; leaflets wedge-shaped, with three terminal teeth.—Roots woody, tufted: stems spreading or procumbent, from one to three inches long: calyx large, hairy: petals small, yellow. Perennial: flowers in July: grows on the summits of the higher mountains of Scotland: common. *Eng. Bot.* vol. xiii. pl. 897. *Eng. Fl.* vol. ii. p. 121. 490.

## HEXAGYNIA.

### 93. DRO'SERA. SUN-DEW.

Calyx inferior, of one leaf, deeply divided into five acute, permanent segments. Petals from five to eight, nearly egg-shaped, obtuse. Filaments from five to eight, awl-shaped, as long as the calyx; anthers small, roundish. Germen roundish. Styles from six to eight, simple, as long as the stamens; stigmas club-shaped. Capsule egg-shaped, one-celled, with three or four valves. Seeds numerous, minute, inversely egg-shaped, attached to the middle of each valve.—Name from *drosos*, dew. 178.

1. *D. rotundifolia*. *Round-leaved Sun-dew*. Leaves round, on hairy stalks; flower-stalks from the root, forming a simple cluster. Leaves from the root, numerous, lying close to the ground, tapering into a flat hairy stalk, and beset with red hairs, discharging a drop of clammy fluid from their tips: petals five, white. Perennial: flowers in July and August: grows in bogs and on wet heaths: common. *Eng. Bot.* vol. xiii. pl. 867. *Eng. Fl.* vol. ii. p. 122. 491.

2. *D. longifolia*. *Long-leaved Sun-dew*. Leaves inversely egg-shaped, on smooth stalks; flower-stalks from the root, forming a simple cluster.—Leaves from the root, numerous, ascending, tapering into a flat, smooth stalk, and beset with hairs as in the last species: petals white. Perennial: flowers in July and August: grows in bogs and on wet heaths: not common. *Eng. Bot.* vol. xiii. pl. 868. *Eng. Fl.* vol. ii. p. 123. 492.

3. *D. A'nglica*. *Great Sun-dew*. Leaves oblong, erect, on smooth stalks; flower-stalks from the root, forming a simple cluster; styles eight; capsules four-valved.—Twice the size of the last, with more slender leaves. Perennial: flowers in July and August: grows in bogs and on moist heaths, in England and Scotland: not common. *Eng. Bot.* vol. xiii. pl. 869. *Eng. Fl.* vol. ii. p. 123. 493.

## POLYGYNIA.

## 94. MYOSURUS. MOUSE-TAIL.\*

Calyx inferior, of five lance-shaped, concave, spreading, coloured, deciduous leaves; spurred at the base. Petals five, very small, tubular, and bearing honey at their base, opening obliquely inwards. Filaments five or more, linear, as long as the calyx; anthers oblong, erect, of two linear cells. Germens very numerous, egg-shaped, on a long, tapering, erect receptacle. Styles none; stigmas minute. Seeds oblong, acute, imbricated on the elongated, columnar, acute receptacle.—Named from *mys*, a mouse, and *oura*, a tail. 179.

1. *M. minimus*. Common Mouse-tail.—Root small, fibrous, leaves numerous, rather fleshy, smooth, tapering into longish stalks: flower-stalks several, erect, each bearing a small pale-yellow flower: germens very numerous, forming a long spike, resembling a mouse's tail. Annual: flowers in May: grows in corn-fields, meadows, and pastures, in gravelly soil, in England, and the south of Scotland: not common. *Eng. Bot.* vol. vii. pl. 435. *Eng. Fl.* vol. ii. p. 125. 494.

## CLASS VI. HEXANDRIA.

*Plants bearing Flowers with Six Stamens.\**

## Order I. MONOGYNIA. One Pistil.

\* *Flowers furnished with a calyx and a corolla.*

18. FRANKENIA. Corolla of five petals. Calyx of one leaf, inferior. Capsule one-celled, many-seeded.
17. BERBERIS. Corolla of six concave petals. Calyx of six leaves, inferior. Berry two-seeded.
19. PEPLIS. Corolla of six petals. Calyx with six deep segments and six intermediate plaits. Capsule two-celled.

(*Lythrum hyssopifolium.*)

\*\* *Flowers destitute of calyx, superior.*

2. LEUCOJUM. Corolla superior, of six petals, bell-shaped. Stamens equal.
1. GALANTHUS. Corolla superior, of six petals, three inner petals shorter, notched.
3. NARCISUS. Corolla superior, of six petals, attached to a bell-shaped nectary, concealing the stamens.

\*\*\* *Flowers destitute of calyx, inferior.*

13. CONVALLARIA. Corolla inferior, six-cleft, deciduous. Berry three-celled. Stigma triangular.
9. HYACINTHUS. Corolla inferior, deeply six-cleft, deciduous. Stamens uniform. Capsule three-celled. Seeds globular.
12. ASPARAGUS. Corolla inferior, deeply six-cleft, permanent. Berry three-celled. Stigmas three.

4. **ALLIUM.** *Corolla* inferior, of six egg-shaped petals. *Stamens* awl-shaped. *Stigma* acute. *Seeds* angular.
11. **NARTHECIUM.** *Corolla* inferior, of six narrow lance-shaped petals, spreading. *Stamens* hairy.
10. **ANTHERICUM.** *Corolla* inferior, of six oblong petals. *Stamens* thread-shaped. *Stigma* obtuse. *Seeds* angular.
7. **ORNITHOGALUM.** *Corolla* inferior, of six lance-shaped petals, permanent. *Stamens* dilated at the base.
8. **SCILLA.** *Corolla* inferior, of six oblong petals, spreading, deciduous. *Stamens* thread-shaped.
5. **FRITILLARIA.** *Corolla* inferior, of six petals, each with a nectar-bearing hollow at the base on the inside.
6. **TULIPA.** *Corolla* inferior, of six petals, bell-shaped. *Style* none. *Seeds* flat.
14. **ACORUS.** *Corolla* inferior, of six petals. *Style* none. *Seeds* egg-shaped. *Spadix* covered with numerous sessile flowers.

\*\*\*\* *Flowers destitute of petals.*

15. **JUNCUS.** *Calyx* of six leaves. *Capsule* three-celled, six-valved. *Seeds* numerous, horizontal.
16. **LUZULA.** *Calyx* of six leaves. *Capsule* one-celled, three-valved. *Seeds* three, erect.

(*Peplos portula. Polygonum.*)

#### Order II. DIGYNIA. *Two Pistils.*

20. **OXYRIA.** *Calyx* of two leaves. *Petals* two. *Seed* one, compressed, winged.

#### Order III. TRIGYNIA. *Three Pistils or Stigmas.*

23. **SCHEUCHZERIA.** *Calyx* none. *Petals* six. *Capsules* three, inflated. *Seeds* solitary.
25. **COLCHICUM.** *Calyx* none. *Corolla* of one petal, six-cleft, with a long tube. *Capsules* three, inflated. *Seeds* numerous.
24. **TRIGLOCHIN.** *Calyx* three-leaved. *Petals* three. *Capsules* three-valved, opening at the base.
21. **RUMEX.** *Calyx* three-leaved. *Petals* three. *Seed* one, naked, triangular.
22. **TOFIEDIA.** *Calyx* three-cleft. *Petals* six. *Capsules* three, many-seeded.

(*Elatine. Cl. VIII.*)

#### Order IV. POLYGYNIA. *Pistils numerous.*

26. **ALISMA.** *Calyx* of three leaves. *Petals* three. *Capsules* six or more. *Seeds* one or two.

### HEXANDRIA—MONOGYNIA.

#### [**GALANTHUS.** SNOWDROP.]

*Seeds* six, superior, deciduous; three outer  
*ave*, spreading; three inner shorter, erect, wedge-

shaped, notched. Filaments hair-like, very short; anthers oblong, with a bristly point. Germen globular, inferior. Style cylindrical, longer than the stamens; stigma simple, acute. Capsule nearly globular, with three blunt angles, three cells, and three valves. Seeds numerous, globular.—Named from *gala*, milk, and *anthos*, a flower. 180.

1. *G. nidalis*. *Snowdrop*. Bulb egg-shaped; leaves keeled, linear, obtuse; stalk three or four inches high, round; a two-nerved membranous bractea or sheath.—Flower pendulous, with white petals, the three inner streaked with green on the inside, and having a spot of the same colour on the outside. Perennial: flowers in February: grows in meadows, hedges, and woods, but not indigenous: common. *Eng. Bot.* vol. i. pl. 19. *Eng. Fl.* vol. ii. p. 129. 495.

## 2. LEUCOJUM. SNOWFLAKE.

Calyx none. Petals six, regular, egg-shaped, nearly equal. Filaments short, erect, flattened; anthers linear, four-cornered. Germen egg-shaped, inferior. Style round, blunt; stigma acute, with a bristly point. Capsule turbinate, obtuse, three-celled, three-valved. Seeds numerous, globular.—Named from *leucos*, white, and *ion*, a violet. 181.

1. *L. æstivum*. *Summer Snowflake*. Flowers several; style club-shaped.—About a foot and a half high: leaves linear, obtuse, with a blunt keel: stalk two-edged, hollow, bearing four or more flowers: petals uniform, each with a green spot on both sides. Perennial: flowers in May: grows in moist meadows, near rivers in England: rare, and perhaps not indigenous. Between Greenwich and Woolwich, and in the Isle of Dogs; in an island in the river, near Kendal; at Little Stonham, Suffolk. *Eng. Bot.* vol. ix. pl. 621. *Eng. Fl.* vol. ii. p. 130. 496.

## 3. NARCIS'SUS. NARCISSUS.

Calyx none. Petals six, egg-shaped, pointed, flat, attached to the outside of the tube of the nectary, above the base. Nectary of one leaf, cylindrical below, funnel-shaped above, with a coloured border. Filaments awl-shaped, attached to the tube of the nectary, short; anthers linear. Germen inferior, roundish, with three blunt corners. Style thread-shaped, triangular, longer than the stamens; stigma three-cleft. Capsule roundish, with three blunt corners, three-celled, three-valved. Seeds numerous, globular.—Named after the youth *Narcissus*. 182.

1. *N. poeticus*. *Poetic Narcissus*. Flowers solitary; cup of the nectary very short, membranous and notched at the edge; leaves bluntly keeled, with reflected edges.—Flower pure white: the nectary edged with crimson: fragrant. Perennial: flowers in May: grows in dry open fields in England: rare. *Eng. Bot.* vol. iv. pl. 275. *Eng. Fl.* vol. ii. p. 131. 497.

2. *N. biflorus*. *Pale Narcissus*. *Primrose-pearless*. Flowers in pairs; cup of the nectary very short, membranous and notched at the edge; leaves acutely keeled, with inflected edges.—Petals pale sulphur-yellow: border of the nectary white. Perennial:



flowers in April and May: grows in sandy fields, in England and Ireland: rare. *Eng. Bot.* vol. ii. pl. 276. *Eng. Fl.* vol. ii. p. 132. 498.

3. *N. Pseudo-Narcissus*. *Common Daffodil*. Flowers solitary; cup of the nectary bell-shaped; erect, curled, as long as the egg-shaped petals.—Petals pale-yellow: nectary deep-yellow. Perennial: flowers in March: grows in woods and thickets in England and Ireland: rare. Probably the above three species are not indigenous: the two first at least are not. *Eng. Bot.* vol. i. pl. 17. *Eng. Fl.* vol. ii. p. 132. 499.

#### 4. ALLIUM. GARLICK.

Calyx none. Petals six, inferior, oblong, regular, the three inner somewhat smaller. Filaments awl-shaped, flattened, as long as the corolla; anthers solitary, oblong. Germen superior, turbinate, angular. Style simple, erect; stigma acute. Capsule three-lobed, three-celled, three-valved. Seeds few, roundish, angular. 183.

##### \* Stem leafy. Leaves flat.

1. *A. Ampeloprasum*. *Great Round-headed Garlick*. Umbel globose, without bulbs; three alternate stamens deeply three-cleft; keel of the petals rough.—Petals uniform, pale-purple, unaccompanied by bulbs. Perennial: flowers in August: Isle of Holmes in the Severn, where it was formerly cultivated. *Eng. Bot.* vol. xxiv. pl. 1657. *Eng. Fl.* vol. ii. p. 133. 500.

2. *A. arendrium*. *Sand Garlick*. Umbel globose, bearing bulbs; three alternate stamens dilated and three-cleft; keel of the petals roughish.—Flowers deep-red, intermixed with dark-purple bulbs. Perennial: flowers in July: grows in woods and fields in hilly districts: rare. *Eng. Bot.* vol. xix. pl. 1858. *Eng. Fl.* vol. ii. p. 134. 501.

3. *A. carinatum*. *Mountain Garlick*. Umbel loose, bearing bulbs; stamens simple, awl-shaped.—Flowers dull-yellow, speckled with brown. Perennial: flowers in July: grows in dry mountainous pastures and sandy ground: rare. *Eng. Bot.* vol. xxiv. pl. 1658. *Eng. Fl.* vol. ii. p. 135. 502.

##### \*\* Stem leafy. Leaves roundish.

4. *A. oleraceum*. *Streaked Field Garlick*. Umbel loose, bearing bulbs; leaves semi-cylindrical, channelled above, ribbed beneath; stamens simple, awl-shaped.—Flowers reddish: bulbs numerous, purple. Perennial: flowers in July: grows in corn-fields and their borders: rare. The leaves are boiled in soups. *Eng. Bot.* vol. vii. pl. 488. *Eng. Fl.* vol. ii. p. 136. 503.

5. *A. vineale*. *Crow Garlick*. Umbel spherical, bearing bulbs; leaves cylindrical, smooth; three alternate stamens deeply three-cleft.—Flowers small, pale rose-coloured, with green keels: bulbs greenish. Perennial: flowers in July: grows in dry pastures, corn-fields, &c.: common. *Eng. Bot.* vol. xxviii. pl. 1974. *Eng. Fl.* vol. ii. p. 137. 504.

6. *A. sphaerocephalum*.<sup>\*</sup> *Small Round-headed Garlick*. Umbel spherical, without bulbs; leaves nearly cylindrical, smooth, channelled above.—Scape leafy below: capsule triangular, with blunt edges: bulb accompanied by stalked offsets. Perennial: flowers in June and July: grows on the sands of St. Aubin's bay; Jersey,

where it was discovered by Messrs. Babington and Christy. *Eng. Bot. Suppl.* pl. 2813. *Brit. Fl.* 4th ed. p. 140. 505.

\*\*\* *Stalk from the root, leafless.*

7. *A. ursinum*. *Broad-leaved Garlick. Ramsons.* Leaves between egg-shaped and lance-shaped, stalked; scape triangular; umbel terminal at the top. — Leaves one or two, large, bright-green: flowers pure white, with acute petals. Perennial: flowers in May and June: grows in moist woods, hedges, and meadows: common. *Eng. Bot.* vol. ii. pl. 122. *Eng. Fl.* vol. ii. p. 138. 506.

8. *A. Schœnopræsum*. *Chive Garlick.* Leaves cylindrical, somewhat tapering at the point; scape round; umbel hemispherical. — Flowers purple, with acute petals. Perennial: flowers in June: grows in meadows and pastures in England and Scotland: rare. Used as a pot-herb. *Eng. Bot.* vol. xxxiv. pl. 2441. *Eng. Fl.* vol. ii. p. 138. 507.

#### 5. FRITILLARIA. FRITILLARY.

Calyx none. Corolla inferior, bell-shaped, of six oblong petals. Nectary a cavity at the base of each petal, above. Filaments awl-shaped, shorter than the corolla; anthers oblong, four-cornered. Germen superior, oblong, triangular. Style simple, long; stigmas three, oblong, downy on the upper side. Capsule oblong, obtuse, three-lobed, three-celled, three-valved. Seeds very numerous, flat. — Name from *fritillus*, a dice-board. 184.

1. *F. Meleagris*. *Fritillary. Snake's-head.* All the leaves alternate, narrow, lance-shaped, pointed; stem single-flowered. — Stem a foot high: flower terminal, pendulous, chequered with pale and dark-purple: the points of the petals turned inwards. Perennial: flowers in April: grows in moist meadows, in the east and south of England: rare. *Eng. Bot.* vol. ix. pl. 622. *Eng. Fl.* vol. ii. p. 139. 508.

#### 6. TULIPA. TULIP.

Calyx none. Corolla inferior, of six egg-shaped petals, bell-shaped. Filaments erect, flattish; anthers oblong, four-cornered. Germen superior, oblong, large, with three blunt corners. Style none; stigma triangular. Capsule triangular, three-valved, three-celled. Seeds numerous, egg-shaped, flat. — Named from *Toliban*, the Persian for a turban. 185.

1. *T. sylvestris*. *Wild Tulip.* Flower rather drooping; leaves lance-shaped; stamens hairy at the base. — Bulb egg-shaped: stem about a foot high, leafy at the middle: leaves alternate, lance-shaped, smooth, clasping the stem: flowers bright-yellow, externally greenish. Perennial: flowers in April: naturalized in chalk-pits and quarries, in various parts of England and Scotland. *Eng. Bot.* vol. i. pl. 63. *Eng. Fl.* vol. ii. p. 140. 509.

#### 7. ORNITHOGALUM. STAR OF BETHLEHEM.

Calyx none. Petals six, inferior, lance-shaped, erect at first, then spreading, permanent. Filaments erect, flattish, three of them broader at the base; anthers oblong. Germen superior, angular. Style awl-shaped, permanent; stigma blunt. Capsule roundish, angular, three-celled, three-valved. Seeds numerous, roundish. — Named from *ornis*, a bird, and *gala*, milk. 186.

1. *O. luteum*. *Yellow Star of Bethlehem*. Stem angular, two-leaved; flower-stalks in an unbranched umbel. Stem from four to six inches high: root-leaf narrow lance-shaped, ribbed, keeled, erect, taller than the stem: flowers yellow, tipped with green on the inner side, and nearly green on the outer. Perennial: flowers in April: grows in woods and pastures: rare. *Eng. Bot.* vol. i. pl. 21. *Eng. Fl.* vol. ii. p. 142. 510.

2. *O. pyrendicum*. *Tall Star of Bethlehem*. Cluster very long; filaments lance-shaped; flower-stalks equal, spreading, afterwards erect.—Stalk two feet high: leaves all radical, linear, channelled, smooth: flowers pale-yellow within, green without. Perennial: flowers in June: grows in pastures in England: rare. *Eng. Bot.* vol. vii. pl. 499. *Eng. Fl.* vol. ii. p. 143. 511.

3. *O. umbellatum*. *Common Star of Bethlehem*. Flowers forming a corymb, the partial stalks taller than the main one; filaments dilated, entire.—Leaves radical, linear, channelled, smooth, stalk about six inches high, bearing a corymb of flowers which are white on the upper side, green on the back. Perennial: flowers in April and May: grows in meadows, pastures and woods, but is not indigenous: rare. *Eng. Bot.* vol. ii. pl. 130. *Eng. Fl.* vol. ii. p. 143. 512.

4. *O. nitans*. *Drooping Star of Bethlehem*. Flowers forming a loose raceme, drooping, unilateral; filaments broad, cloven, the alternate ones longer, and with deeper lobes. Larger than the last, especially in the flower, which is white on the upper side, green on the back. Perennial: flowers in April and May: grows in fields and orchards in England: rare, and not truly wild. *Eng. Bot.* pl. 1997. *Brit. Fl.* 4th ed. p. 140. 513.

#### 8. SCILLA. SQUILL.

Calyx none. Petals six, inferior, oblong, spreading. Filaments all thread-shaped, simple, half as long as the petals; anthers oblong. Germen superior, roundish. Styles simple, shorter than the stamens, deciduous; stigma simple. Capsule roundish with three furrows, three-celled, three-valved. Seeds numerous, roundish.—Named from *scyllo*, to injure. 187.

1. *S. ver'na*. *Vernal Squill*. Corymb hemispherical, few-flowered; bractees lance-shaped, obtuse; leaves linear, channelled.—Leaves numerous, deep-green: flowers deep-blue: stalk three or four inches high. Perennial: flowers in April, May, and June: grows in sandy pastures by the sea-shore: rare. Howth and Killybeg, Ireland; Isle of Man; Anglesea, Wales, Cornwall, Iona, Staffa, Caithness, Sutherland, Shetland, Orkneys, Barra. *Eng. Bot.* vol. i. pl. 23. *Eng. Fl.* vol. ii. p. 145. 514.

2. *S. autumnalis*. *Autumnal Squill*. Cluster somewhat corymbose, without bractees; leaves linear, numerous.—Flowers rose-coloured: stalk about three inches high. Perennial: flowers in September: grows in dry pastures in the south of England: rare. *Eng. Bot.* vol. ii. pl. 78. *Eng. Fl.* vol. ii. p. 146. 515.

#### 9. HYACINTHUS. HYACINTH.

Calyx none. Corolla inferior, of one petal, deciduous, with a somewhat bell-shaped tube, and six-cleft reflected limb. Filaments awl-shaped, equal; anthers oblong. Germen superior, roundish, with three corners and three grooves. Style simple,

shorter than the tube, deciduous; stigma obtuse. Capsule roundish, three-cornered, three-celled, three-valved. Seeds few, globular.—Named after the youth *Hyacinthus*. 188.

1. *II. racemōsus*. *Starch Hyacinth*. Flowers egg-shaped, with six furrows; leaves linear, channelled, flaccid.—Leaves numerous, deep-green: stalk solitary, erect, round, shorter than the leaves: flowers dark-blue. Perennial: flowers in May: grows in grassy fields, or among ruins, in England, but not truly wild: rare. *Eng. Bot.* vol. xxvii. pl. 1931. *Eng. Fl.* vol. ii. p. 149. 516.

2. *II. nonscriptus*. *Harebell*. *Wild Hyacinth*. Cluster drooping; flowers hanging, the points of the petals reflected; bractees in pairs.—Leaves numerous, pale-green: stalk about a foot high: corolla pale-blue. Perennial: flowers in May: grows in thickets, woods, fields, &c.: abundant. *Eng. Bot.* vol. vi. pl. 377. *Eng. Fl.* vol. ii. p. 147. 517.

#### 10. ANTHERICUM. SPIDERWORT.

Calyx none. Petals six, inferior, oblong, spreading. Filaments thread-shaped; anthers roundish. Germen inferior, roundish, with three angles. Style thread-shaped, erect, permanent; stigma obtuse. Capsule roundish, three-cornered, three-celled, three-valved, crowned with the style. Seeds few, angular.—Named from *anthericos* of the Greeks. 189.

1. *A. scrothum*. *Mountain Spiderwort*. Leaves semi-cylindrical, those on the stem dilated at the base; flower solitary.—Flowers erect, white, veined externally with green. Perennial: flowers in June: grows on some of the highest Welsh mountains: very rare. *Eng. Bot.* vol. xii. pl. 793. *Eng. Fl.* vol. ii. p. 150. 518.

#### 11. NARTHECIUM. ASPHODEL.

Calyx none. Petals six, equal, lance-shaped, spreading, permanent. Filaments six, awl-shaped, woolly; anthers small, oblong. Germen superior, oblong, triangular. Style conical, short; stigma simple. Capsule oblong, pointed, bluntly triangular, three-celled, three-valved. Seeds numerous, erect, small, oblong.—Named from *narthes*, a rod. 190.

1. *N. Ossifragum*. *Bog Asphodel*. Cluster uninterrupted; one bractea at the base, another above the middle of each partial stalk.—Six or eight inches high: leaves sword-shaped, those on the stem much smaller: flowers yellow, green on the back. Perennial: flowers in June and July: grows on wet heaths: frequent. *Eng. Bot.* vol. viii. pl. 535. *Eng. Fl.* vol. ii. p. 151. 519.

#### 12. ASPARAGUS. ASPARAGUS.

Calyx none. Corolla inferior, divided into six equal, oblong segments, permanent. Filaments thread-shaped, short; anthers oblong, erect. Germen globular. Style very short; stigma three-lobed. Berry globular, three-celled. Seeds one or two in each cell.—Name used by the Greeks, from *asparasso*, to tear. 191.

1. *A. officinalis*. *Common Asparagus*. Stem herbaceous, cylindrical, erect; leaves bristle-shaped, flexible; stipules solitary.—

About a foot high: leaves tufted, small, bright-green: flowers axillar, two or three together, greenish-white: berry scarlet. Perennial: flowers in August: grows on the sea-coast in the south and south-west of England: rare. *Eng. Bot.* vol. v. pl. 339. *Eng. Fl.* vol. ii. p. 153. 520

### 13. CONVALLARIA. SOLOMON'S SEAL. .

Calyx none. Corolla interior, of one petal, bell-shaped, deciduous, with six obtuse segments. Filaments awl-shaped, shorter than the corolla; anthers oblong, erect. Germen globular. Style thread-shaped, longer than the stamens; stigma triangular, obtuse. Berry globular, three-celled. Seeds two in each cell, roundish.—Name from *convallis*, a valley. 192.

1. *C. majalis*. *Lily of the Valley*. Stalk naked, semi-cylindrical; cluster simple; flowers drooping, cup-shaped.—Leaves two radical, elliptical, ribbed, stalked, pale-green: flowers white, elegant, sweet-scented: berry scarlet. Perennial: flowers in May: grows in woods, but has probably been introduced: frequent. *Eng. Bot.* vol. xv. pl. 1035. *Eng. Fl.* vol. ii. p. 154. 521

2. *C. verticillata*. *Narrow-leaved Solomon's Seal*. Leaves narrow, lance-shaped, in whorls.—Stem erect, about two feet high: naked below, leafy above: flower-stalks axillar, solitary, each bearing from two to four pendulous white flowers: berry deep-blue. Perennial: flowers in June: grows in woods, in Scotland: very rare. Den Rechip, near Dunkeld, and woods near Blairgowrie. *Eng. Bot.* vol. ii. pl. 128. *Eng. Fl.* vol. ii. p. 155. 522

3. *C. polygonatum*. *Angular Solomon's Seal*. Leaves alternate, embracing the stem; flower-stalks axillar, mostly one-flowered: stamens smooth.—Stem from twelve to eighteen inches high: flowers white, with a green line running down each segment, which is bearded at the tip: berries black. Perennial: flowers in May and June: grows in rocky mountainous woods, in England: rare. *Eng. Bot.* vol. iv. pl. 280. *Eng. Fl.* vol. ii. p. 155. 523

4. *C. multiflora*. *Common Solomon's Seal*. Leaves alternate, embracing the stem; flower-stalks axillar, many-flowered; stamens downy.—Stem two feet high: flowers from two to five on each stalk, the segments white, tipped with green: berries bluish-black. Perennial: flowers in May and June: grows in woods and thickets, in England and Scotland: not common. *Eng. Bot.* vol. iv. pl. 279. *Eng. Fl.* vol. ii. p. 156. 524

### 14. ACORUS. SWEET FLAG.

Calyx none. Spadix naked, cylindrical, simple, covered with sessile flowers. Petals six, inferior, equal, obtuse, concave. Filaments thickish, erect, a little longer than the petals; anthers thick, terminal, two-lobed. Germen superior, oblong, as long as the stamens. Style none; stigma hemispherical. Capsule triangular, abrupt, three-celled. Seeds several, between egg-shaped and oblong.—Named from *a*, without, and *corion*, the pupil of the eye, in diseases of which it was once used. 193.

2. *A. Calamus*. *Sweet Flag*. *Myrtle Flag*. Leafy summit of the flower-stalk rising far above the spadix.—Leaves erect, two or

three feet high : stalk like the leaves, not quite so high : flowers crowded, pale-green : the whole plant is aromatic, especially the root. Perennial : flowers in May and June : grows on the banks of rivers, having a muddy bottom, in England ; and a few places in the south-west of Scotland. *Eng. Bot.* vol. v. pl. 356. *Eng. Fl.* vol. ii. p. 157. 525.

### 15. JUN'CUS. RusH.\*

Calyx inferior, of six oblong, acute, permanent leaves, three of them internal. Corolla none. Filaments thread-like, short ; three of them sometimes wanting ; anthers oblong, erect, two-celled. Germen superior, triangular. Style simple, cylindrical, short ; stigma three, elongated, downy. Capsule triangular, three-celled, three-valved. Seeds numerous, minute, roundish. — Named from *jungo*, to join, the stems having been employed as cordage. 194.

\* No leaves.

1. *J. acutus*. Great Sharp Sea Rush. Straw naked, cylindrical, sharp-pointed ; panicle dense, near the summit ; bractea spinous ; capsule roundish, twice as long as the calyx. — Root fibrous : straws from three to six feet high, erect, straight, stiff : panicle lateral, corymbose, many-flowered : capsule broadly egg-shaped, triangular, sharp-pointed, brown. Perennial : flowers in July : grows on the sea-coast in deep sand. In Merionethshire, Norfolk, Lancashire, and Devonshire : rare. *Eng. Bot.* vol. xiii. pl. 1614. *Eng. Fl.* vol. ii. p. 159. 526.

2. *J. maritimus*. Lesser Sharp Sea Rush. Straw naked, cylindrical, sharp-pointed ; panicle loose, near the summit ; bractea spinous ; capsule oblong, as long as the calyx. — Root fibrous : straws about three feet high, more slender than the last : capsule prismatic. Perennial : flowers in August : grows in salt marshes : rare. *Eng. Bot.* vol. xxiv. pl. 1725. *Eng. Fl.* vol. ii. p. 159. 527.

3. *J. Balticus*. Baltic Rush. Straws naked, straight, acute ; panicle erect, branched, few-flowered ; bractea shorter than the panicle ; capsule elliptical. — Root creeping : straws about a foot high, smooth, with brown scales at the base : panicle near the top of the straw, dense : bractea membranous : leaves of the calyx lance-shaped, bluntish, dark-brown. Perennial : flowers in July and August. Discovered by Mr. Drummond, on the sands of Barry, near Dundee : South Uist abundant : Cape Wrath : Morayshire. *Eng. Bot. Suppl.* pl. 2621. *Eng. Fl.* vol. ii. p. 163. 528.

4. *J. glaucus*. Hard Rush. Straw naked, straight, deeply striated ; panicle erect, much branched ; capsule elliptical, pointed, shorter than the calyx. — Root creeping, black : straws stiff and tough, glaucous, deeply striated, about two feet high : panicle about half way between the root and summit, cymose, nearly erect : leaves of the calyx awl-shaped, pale-green, with a broad green line down the middle of the base. Perennial : flowers in July : grows in ~~wet~~ places, by ditches, &c. : common. *Eng. Bot.* vol. x. pl. 665. *Eng. Fl.* vol. ii. p. 160. 529.

5. *J. effusus*. Soft Rush. Straw naked, straight, faintly striated : panicle loose, repeatedly compound ; capsule obtuse, a little shorter than the calyx. — Root creeping : straws soft and pliant, pale-green, about two feet high : panicle very loose, about half way down

the straw; leaves of the calyx finely pointed. The pith of this and the following species is used for rush-lights: the straws are plaited into chair-bottoms and mats. Perennial: flowers in July: grows in wet meadows and pastures: common. *Eng. Bot.* vol. xii. pl. 836. *Eng. Fl.* vol. ii. p. 162. 530.

6. *J. conglomeratus*. *Common Rush*. Straw naked, straight, faintly striated; panicle very dense, globular, repeatedly branched; capsule abrupt; stamens three.—Root creeping: straws soft, pliant, about two feet high: panicle forming a dense globular head of brown flowers: leaves of the calyx pointed: the straw is larger than in the last species, and the pith is consequently better for rush-lights, or wicks to lamps. Perennial: flowers in July: grows in wet grounds: common. *Eng. Bot.* vol. xii. pl. 835. *Eng. Fl.* vol. ii. p. 161. 531.

7. *J. filiformis*. *Slender Rush*. Straw naked, slender, drooping: panicle few-flowered, corymbose; capsule nearly globular. Root creeping: straws very slender, pliant, pale-green, about a foot high: flowers from five to eight. Perennial: flowers in August: grows on the margins of lakes, in the north of England: rare. *Eng. Bot.* vol. xvii. pl. 1175. *Eng. Fl.* vol. ii. p. 162. 532.

\*\* *Plants furnished with leaves.*

8. *J. squarrosus*. *Moss Rush, Heath Rush*. Straw naked; leaves radical, numerous, bristle-shaped, channelled; panicle terminal, compound; capsule inversely egg-shaped.—Root tufted: straws erect, about a foot high, bluntly triangular. Perennial: flowers in June and July: grows on wet heaths: abundant. *Eng. Bot.* vol. xiii. pl. 933. *Eng. Fl.* vol. ii. p. 164. 533.

9. *J. trifidus*. *Three-leaved Rush*. Straw naked; radical leaves very few; bractees three, leafy; a terminal head of about three flowers.—Root creeping: straws crowded, thread-shaped, erect, from four to six inches high: radical leaves one or two, very short: bractees three, at the top of the straw, resembling leaves. Perennial: flowers in July: grows in rocky places on the higher mountains of Scotland, as Ben Lawers, Cairngorm: rare. *Eng. Bot.* vol. xxi. pl. 1482. *Eng. Fl.* vol. ii. p. 163. 534.

10. *J. compressus*. *Round-fruited Rush*. Straw simple, compressed, leafy below; leaves linear, incurved at the edges; panicle cymose, terminal, shorter than the bractea; capsule roundish, longer than the calyx.—Root creeping: straws erect, from six to twelve inches high: unbranched, round and leafy below, naked and compressed above: leaves acute, channelled. Perennial: flowers in July and August: grows in moist pastures: common. *Eng. Bot.* vol. xiii. pl. 934. *Eng. Fl.* vol. ii. p. 165. A variety of this plant, common in salt marshes, with a nearly simple few-flowered panicle longer than the bractea, is the *J. canosus*, *Mud Rush*. *Eng. Bot. Suppl.* pl. 2680. *Eng. Fl.* vol. ii. p. 166. 535.

11. *J. tenuis*. *Slender-spreading Rush*. Straw simple, naked; leaves linear, slightly channelled; panicle terminal, compound; leaves of the calyx lance-shaped, taper-pointed, three-ribbed, longer than the capsule.—Root fibrous: straw erect, very slender, about a foot high: leaves very few, radical: leaves of the calyx green, three-ribbed, acute. Perennial: flowers in July: grows on the mountains of Scotland: rare. *Eng. Bot.* vol. xxxi. pl. 2174. *J. Gesneri*. *Eng. Fl.* vol. ii. p. 167. 536.

12. *J. bufonius*. *Toad Rush*. Straw branched, leafy; leaves angular, channelled; panicle forked, longer than the bractes; leaves of the calyx lance-shaped, taper-pointed, membranous, two-ribbed, longer than the capsule.—Root fibrous: straws numerous, crowded, from four inches to a foot high. Annual: flowers in July and August: grows in marshy ground, ditches, &c.: common. *Eng. Bot.* vol. xii. pl. 802. *Eng. Fl.* vol. ii. p. 168. 537.

13. *J. uliginosus*. *Little Bulbous Rush*. Straw branched, leafy, bulbous at the base; leaves bristle-shaped, channelled; heads lateral and terminal, about three-flowered; capsule obtuse, longer than the calyx.—Straws from two to six inches high. Perennial: flowers in June and July: grows in wet places: common. *Eng. Bot.* vol. xii. pl. 801. *Eng. Fl.* vol. ii. p. 169. 538.

14. *J. capitatus*. *Dense-headed Rush*. Straw erect, simple, leafy at the base; leaves bristle-shaped, channelled; heads lateral and terminal; leaves of the calyx keeled, bristle-pointed, twice as long as the capsule; stamens three.—Root fibrous: straws from two to four inches high. Annual: flowers in the summer months: grows in sandy ground, in the island of Jersey. *Eng. Fl.* vol. ii. p. 170: *J. supinus*. *Bicheno, Lin. Tr.* vol. xii. p. 317. 539.

15. *J. biglumis*. *Two-flowered Rush*. Straw erect, simple, leafy at the base; leaves flat; head solitary, of two flowers, overtopped by a leafy bractea.—Root fibrous: straws from two to four inches high: flowers terminal: capsule longer than the calyx. Perennial: flowers in August: grows on the higher mountains of Scotland: rare. *Eng. Bot.* vol. xiii. pl. 898. *Eng. Fl.* vol. ii. p. 172. 540.

16. *J. triglumis*. *Three-flowered Rush*. Straw erect, simple, leafy below; leaves flat; head solitary, terminal, of three flowers, with elliptical bractes.—Roots creeping: straws from three to six inches high. Perennial: flowers in July: grows on the higher mountains of Wales, the north of England, and Scotland: frequent. *Eng. Bot.* vol. xiii. pl. 899. *Eng. Fl.* vol. ii. p. 173. 541.

17. *J. castaneus*. *Clustered Alpine Rush*. Straws simple, leafy; leaves flat, keeled; heads terminal, mostly in pairs, many-flowered, with leafy bractes; capsule twice as long as the calyx.—Root creeping: straws solitary, erect, from eight to twelve inches high. Perennial: flowers in July: grows in the Highlands of Scotland, and in the north of England: rare. *Eng. Bot.* vol. xiii. pl. 900. *Eng. Fl.* vol. ii. p. 174. 542.

18. *J. acutiflorus*. *Sharp-flowered Rush*. Leaves apparently jointed, somewhat compressed; panicle repeatedly compound, terminal; leaves of the calyx lance-shaped, nearly as long as the narrow egg-shaped, taper-pointed capsule.—From one to two feet high: flowers greenish-brown. Perennial: flowers in July and August: grows in bogs, ditches, &c.: very common. *Eng. Bot.* vol. xxx. pl. 2143. *Eng. Fl.* vol. ii. p. 174. 543.

19. *J. lampocarpus*. *Shining-fruited Rush*. Leaves apparently jointed, compressed; panicle repeatedly compound, terminal, erect, three inner leaves of the calyx rather blunt; capsule egg-shaped, acute, longer than the calyx, shining.—From one to two feet high. Perennial: flowers in July and August: grows in bogs and ditches: common. *Eng. Bot.* vol. xxx. pl. 2143. *Eng. Fl.* vol. ii. p. 175. 544.



20. *J. obtusiflorus*. *Blunt-flowered Rush*. Leaves apparently jointed, cylindrical; panicle very much compounded, spreading; leaves of the calyx very obtuse, as long as the capsule. Straws with internal partitions, about two feet high. Perennial: grows in marshy places: not common. *Eng. Bot.* vol. xxx. pl. 2144. *Eng. Fl.* vol. ii. p. 176. The *J. polycéphalus*, *Many-headed jointed Rush*, found in the Highlands of Scotland, by Mr. G. Don, is a variety of this plant, with a panicle less branched, and clusters of more numerous flowers. *Eng. Bot. Suppl.* pl. 2643. *Eng. Fl.* vol. ii. p. 177. 545.

#### 16. LU'ZULA. Wood Rush.

Calyx inferior, of six oblong, acute, permanent leaves, three of them internal. Corolla none. Filaments thread-like, short; anthers oblong, erect, two-celled. Germen superior, triangular. Style simple, thread-shaped, short; stigmas three, tapering, downy. Capsule triangular, one-celled, three-valved. Seeds three, at the bottom of the capsule.—Name altered from *luciola*, a glow-worm. 195.

1. *L. pilosa*. *Broad-leaved Hairy Wood Rush*. Panicle cymose, widely spreading; flowers solitary; capsule pointless; leaves of the calyx long-pointed, shorter than the capsule.—Stem about a foot high: leaves between linear and lance-shaped, ribbed, fringed with long, white hairs. Perennial: flowers in April and May: grows in woods and thickets: common. *Eng. Bot.* vol. xi. pl. 736. *Eng. Fl.* vol. ii. p. 178. 546.

2. *L. Forstéri*. *Narrow-leaved Hairy Wood Rush*. Panicle cymose, erect; flowers solitary; capsule pointed; leaves of the calyx long-pointed, a little longer than the capsule.—More slender than the last, and the leaves much narrower. Perennial: flowers in April and May: grows in woods and thickets: frequent. *Eng. Bot.* vol. xviii. pl. 1293. *Eng. Fl.* vol. ii. p. 179. 547.

3. *L. sylvatica*. *Great Wood Rush*. Panicle cymose, doubly compound; flowers aggregate; capsule pointed; leaves of the calyx awned, as long as the capsule.—From two to three feet high: leaves broad, hairy on the edges, the root-leaves forming a large tuft. Perennial: flowers in May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 737. *Eng. Fl.* vol. ii. p. 180. 548.

4. *L. campestris*. *Field Rush*. Panicle of three or four egg-shaped, dense clusters; capsule inversely egg-shaped, obtuse, with a small point; leaves of the calyx long-pointed, longer than the capsule.—Root scaly, creeping, tufted: stems from three to ten inches high, simple, straight: leaves dark-green, very hairy at the margin: leaves of the calyx lance-shaped, pointed, dark-brown. Perennial: flowers in April and May: grows in dry pastures: frequent. *Eng. Bot.* vol. x. pl. 672. *Eng. Fl.* vol. ii. p. 181. A large variety of this plant, with the flowers collected into a nearly round head, is the *L. congesta*, *Many-headed Bog Wood Rush*, of many botanists. *Eng. Bot. Suppl.* pl. 2719. *Eng. Fl.* vol. ii. p. 181. 549.

5. *L. spicata*. *Spiked Wood Rush*. Panicle compound, dense, oblong, drooping; capsule elliptical, with a small point; leaves of the calyx between taper-pointed and awned, as long as the capsule.—

From six to eight inches high: leaves small, somewhat channelled, hairy at the margins of the sheaths. Perennial: flowers in July: grows on the higher mountains of Scotland and Westmoreland. *Eng. Bot.* vol. xvii. pl. 1176. *Eng. Fl.* vol. ii. p. 182. 550.

6. *I. arcuata*. *Curved Mountain Wood Rush*. Panicle somewhat umbellate, partly compound, with drooping branches; capsule elliptical, shorter than the lance-shaped, acute leaves of the calyx.—Stem three or four inches high: root-leaves numerous, linear, channelled, slightly hairy: stem-leaves flatter. Perennial: flowers in July: grows on the summits of some of the highest mountains of the Cairngorm Range in Scotland. *Flora Lond.* N. S. pl. 153. *Eng. Fl.* vol. ii. p. 183. 551.

#### 17. BERBERIS. BARBERRY.

Calyx inferior, of six inversely egg-shaped, spreading, coloured leaves, the three outer smaller. Petals six, roundish, spreading, the claw of each having two oblong nectariferous glands. Filaments linear, flattened; anthers of two separate lobes, on the opposite edges of the top of the filament. Germen superior, oblong. Stigma round, broader than the germen, permanent. Berry oblong, one-celled, pulpy. Seeds two or three, oblong, cylindrical.—Name, *berberys*, the Arabic for the plant. 196.

1. *B. vulgaris*. *Common Barberry*. Clusters pendulous; thorns three-cleft; leaves inversely egg-shaped, with bristly serratures.—A bushy shrub, three or four feet high: flowers bright-yellow: the stamens on being irritated, contract, and thus throw the pollen upon the stigma: berries scarlet, very acid, when boiled with sugar forming a very agreeable jelly. Perennial: flowers in June: grows in woods and hedges: common. This plant is said to be prejudicial to growing corn, causing barrenness in the ears. *Eng. Bot.* pl. 49. *Eng. Fl.* vol. ii. p. 184. 552.

#### 18. FRANKENIA. FRANKENIA.

Calyx inferior, of one leaf, nearly cylindrical, five-cornered, permanent; the border with five acute teeth. Petals five, the claws as long as the calyx, the limbs inversely egg-shaped, spreading. Nectary a channelled membrane, on the inner side of each claw. Filaments six, as long as the calyx; anthers of two roundish lobes. Germen superior, egg-shaped, with three furrows. Style erect, cylindrical, as long as the stamens; stigmas three, oblong, erect. Capsule oval, one-celled, three-valved. Seeds numerous, egg-shaped, minute.—Named after *John Franken*, a Swedish botanist. 197.

1. *F. laevis*. *Smooth Sea-heath*. Leaves linear, crowded, fringed at the base.—Root woody: stems prostrate, branched, slightly downy: flowers from the forks of the stem, sessile, solitary, flesh-coloured. Perennial: flowers in July: grows in salt marshes on the coasts of England: rare. *Eng. Bot.* vol. iii. pl. 205. *Eng. Fl.* vol. ii. p. 186. 553.

#### 19. PEPLIS. WATER PURSLANE.

Calyx inferior, of one leaf, bell-shaped, large, permanent,

with six acute segments, and six intermediate plaits. Petals six, very minute, egg-shaped, from the mouth of the calyx. Filaments thread-shaped, incurved, short; anthers roundish. Germen egg-shaped. Style cylindrical, very short; stigma round and flat. Capsule globose, two-celled, with a transverse partition. Seeds numerous, minute, triangular.—Named from *peplion*, anciently applied to an allied plant. 198.

1. *P. Portula. Water Purslane.* Petals generally wanting; leaves opposite, inversely egg-shaped, stalked.—Stems numerous, creeping; flowers small, axillar, solitary, reddish. Annual: flowers in July and August: grows in watery places, especially such as become dry in summer: frequent. *Eng. Bot.* vol. xvii. pl. 1121. *Eng. Fl.* vol. ii. p. 187. 554.

## DIGYNIA.

### 20. OXYRIA. MOUNTAIN SORREL.

Calyx inferior, of two opposite, lance-shaped, permanent leaves. Petals two, inversely egg-shaped, erect, permanent. Filaments awl-shaped, shorter than the calyx; anthers erect, two-lobed. Germen superior, egg-shaped, compressed, with membranous edges, cleft. Styles very short, erect; stigmas in many tufted segments. Seed one, egg-shaped, compressed, with a dilated, membranous wing.—Named from *oxys*, acid. 199.

1. *O. reniformis. Kidney-leaved Mountain Sorrel.* Stem from six inches to a foot high, almost leafless: leaves almost all radical, numerous, kidney-shaped: panicle erect, branched: flowers small, drooping. Perennial: flowers in June: grows on moist rocks and by rills, on the higher mountains of Scotland, Wales, the north of England, and Ireland: abundant. *Eng. Bot.* vol. xiii. pl. 910. *Eng. Fl.* vol. ii. p. 188. 555.

## TRIGYNIA.

### 21. RUMEX. DOCK SORREL.

Calyx inferior, of three obtuse, permanent leaves. Petals three, larger than the calyx, and similar in colour, but thinner and more veiny, permanent, ultimately enlarged and converging round the seed. Filaments thread-shaped, very short; anthers erect, oblong, two-lobed. Germen superior, triangular. Styles thread-shaped, spreading, standing out between the petals; stigma large, in many tufted segments. Seed single, triangular, 3-lobed. Name of unknown origin. 200.

\* *Flowers all perfect.*

1. *R. sanguineus. Bloody-veined Dock.* Enlarged petals entire, oblong, one at least bearing a tubercle; leaves lance-shaped, somewhat heart-shaped.—Stem two or three feet high, erect, branched, leafy, reddish. Leaves all stalked, slightly curled at the edges, with

bright-red or green veins. Perennial: flowers in July: grows in woods and waste places: frequent. *Eng. Bot.* vol. xxii. pl. 1533. *Eng. Fl.* vol. ii. p. 190. 556.

2. *R. crispus*. *Curled Dock*. Enlarged petals entire, egg-shaped, all bearing a tubercle; leaves lance-shaped, wavy, acute; upper whorls leafless.—Stem two or three feet high, erect, panicked, leafy: clusters of numerous tufts or whorls, of drooping flowers. A very troublesome weed. Perennial: flowers in July: grows in pastures, waste places, &c.: common. *Eng. Bot.* vol. xxviii. pl. 1998. *Eng. Fl.* vol. ii. p. 191. 557.

3. *R. pratensis*. *Meadow Dock*. Enlarged petals unequal, toothed at the base, with an entire triangular point, one bearing a tubercle; leaves lance-shaped, wavy; clusters nearly leafless, whorls distinct.—Similar to the preceding, but differing in the less crowded clusters, and the broader and less curled leaves. Perennial: flowers in June and July: grows in marshy ground; probably of common occurrence throughout the country. *Eng. Bot. Suppl.* pl. 2757. *Brit. Fl.* 4th ed. p. 150. 558.

4. *R. aquaticus*. *Grainless Water Dock*. Enlarged petals broadly cordate, reticulated, without tubercles; leaves lanceolate, the lower between oblong and heart-shaped, curled and waved; whorls crowded, mostly leafless.—Found by Mr. Goldie, near Ayr, and first described as British by Dr. Hooker. *Brit. Fl.* p. 168. *Eng. Bot. Suppl.* pl. 2698. 559.

5. *R. alpinus*. *Alpine Dock*. Enlarged petals heart-shaped, reticulated, obscurely toothed, one bearing a small tubercle; leaves broadly heart-shaped, obtuse; whorls leafless, crowded; flowers monœcious.—Perennial: flowers in July: grows by road-sides, but is not indigenous: rare. Found by Dr. Hooker and Mr. Berkeley in Glen Luss, and at the head of the Gareloch. *Eng. Bot. Suppl.* pl. 2694. *Brit. Fl.* 4th ed. p. 151. 560.

6. *R. acutus*. *Sharp-leaved Dock*. Enlarged petals oblong, obscurely toothed, all bearing a tubercle; leaves between oblong and heart-shaped, pointed; clusters leafy.—Stem about two feet high, angular, furrowed, leafy, alternately branched: leaves stalked: branches loose, bearing numerous distant whorls of flowers. Perennial: flowers in July: grows in watery places: not uncommon. *Eng. Bot.* vol. xi. pl. 724. *Eng. Fl.* vol. ii. p. 192. 561.

7. *R. pulcher*. *Fiddle Dock*. Enlarged petals toothed, one principally bearing a tubercle; root-leaves fiddle-shaped; stem smooth, spreading.—Stems often procumbent: root-leaves on long stalks: stem-leaves numerous, alternate, lance-shaped: whorls of flowers numerous. Perennial: flowers in August: grows in dry pastures, by road-sides, among rubbish, &c.: common. *Eng. Bot.* vol. xx. pl. 1576. *Eng. Fl.* vol. ii. p. 193. 562.

8. *R. maritimus*. *Golden Dock*. Enlarged petals triangular, fringed with slender teeth, bearing a tubercle; leaves linear: whorls crowded.—Stem from one to two feet high, angular, furrowed, leafy, leaves stalked: flowers very numerous, in dense leafy whorls. Whole plant ultimately assuming a golden colour. Perennial: flowers in July and August: grows in marshes, principally near the sea: frequent. *Eng. Bot.* vol. xi. pl. 725. *Eng. Fl.* vol. ii. p. 194. 563.

9. *R. palustris*. *Yellow Marsh Dock*. Enlarged petals lance-

shaped, toothed at the base, bearing a tubercle; leaves between linear and lance-shaped; whorls distant.—Stem two feet high, nearly erect, branched, furrowed, leafy: leaves stalked: flowers in distant whorls. Perennial: flowers in July and August: grows in marshes, ditches, and boggy grounds: common. *Eng. Bot.* vol. xxvii. pl. 1932. *Eng. Fl.* vol. ii. p. 113. 564.

10. *R. obtusifolius*. *Broad-leaved Dock*. Enlarged petals toothed, one principally bearing a tubercle; root-leaves heart-shaped at the base, rather obtuse; stem roughish.—Stems about three feet high, erect, branched, furrowed, leafy: root-leaves very large, the others more narrow, all notched and curled more or less at the edges. A troublesome weed. Perennial: flowers in July and August: grows about houses, in waste places and fields: common. *Eng. Bot.* vol. xxviii. pl. 1999. *Eng. Fl.* vol. ii. p. 192. 565.

11. *R. Hydrolipathum*. *Great Water Dock*. Enlarged petals egg-shaped, nearly entire, unequally tubercled; leaves lance-shaped, acute at both ends; whorls rather crowded, almost leafless.—Stem from four to six feet high, erect, hollow, furrowed, branched, leafy: leaves stalked, leathery, the tubercles on the petals vary in size and shape. The root is highly astringent. Perennial: flowers in July and August: grows in ditches and by rivers: frequent. *Eng. Bot.* vol. xxx. pl. 2104. *Eng. Fl.* vol. ii. p. 195. 566.

\*\* *Stameniferous flowers and pistilliferous flowers, on separate plants.*

12. *R. Acetosa*. *Common Sorrel*. Enlarged petals bearing tubercles; leaves oblong, arrow-shaped.—Stem from one to two feet high, erect, hollow, striated, leafy. The whole plant is powerfully acid, and the leaves are eaten as salad. Perennial: flowers in the summer months: grows in pastures, cultivated fields, and by roads and hedges: abundant. *Eng. Bot.* vol. ii. pl. 127. *Eng. Fl.* vol. ii. p. 196. 567.

13. *R. Acetosella*. *Sheep's Sorrel*. Enlarged petals destitute of tubercles: leaves halbert-shaped.—Stem from four inches to a foot high, erect, leafy. The whole plant is powerfully acid, but less juicy than the preceding. Perennial: flowers in the summer months: grows in pastures, cultivated fields, and waste places: common. *Eng. Bot.* vol. xxiv. pl. 1674. *Eng. Fl.* vol. ii. p. 197. 568.

## 22. TOFIELDIA. TOFIELDIA.

Calyx inferior, small, of one leaf, three-cleft, permanent. Petals six, oblong, equal, permanent, many times longer than the calyx. Filaments awl-shaped, simple, as long as the corolla; anthers heart-shaped, fixed sidewise. Germen three-cornered. Styles awl-shaped, spreading; stigmas knobbed. Capsules three, connected at the base, each one-celled, two-valved. Seeds numerous, oblong, angular.—Named after *Mr. Tofield*, an English botanist. 201.

1. *T. palustris*. *Scottish Asphodel*. Flowers in an egg-shaped head; stem thread-shaped, smooth, leafless; petals inversely egg-shaped; germens roundish.—Leaves sword-shaped, in two-rowed tufts: stem four or five inches high: flowers greenish-white. Perennial: flowers in August: grows in boggy places, on the moun-

tains of Scotland, the north of England and Ireland: frequent.  
*Eng. Bot.* vol. viii. pl. 536. *Eng. Fl.* vol. ii. p. 198. 569.

## 23. SCHEUCHZERIA. SCHEUCHZERIA.

Calyx none. Petals six, inferior, oblong, acute, recurved, permanent. Filaments thread-shaped, shorter than the petals; anthers terminal, linear, two-celled. Germens three, superior, egg-shaped, compressed. Styles none; stigmas oblong, obtuse. Capsules three, roundish, compressed, pointed, each one-celled, two-valved. Seeds solitary, oblong.—Named after the three *Scheuchzers*, Swiss botanists. 202.

1. *S. palustris*. *Marsh Scheuchzeria*. Root long, creeping. Stems erect, simple, wavy, six inches high: leaves few, alternate, semi-cylindrical, obtuse: flowers about five, in a terminal cluster. Perennial: flowers in June: grows in wet spongy mountain bogs: very rare. Lakeby Car, Yorkshire; near Shrewsbury; Thorne Moor, near Doncaster; Methven, near Perth. 570.

## 24. TRIGLO'CHIN. ARROW-GRASS.

Calyx inferior, of three roundish, deciduous leaves. Petals three, egg-shaped, a little longer than the calyx. Filaments very short; anthers large, roundish, two-lobed. Germen superior, large, oblong. Styles none; stigmas three or six, reflected, feathery. Capsule oblong, with as many cells as there are stigmas. Seeds solitary, oblong, pointed.—Named from *treis*, three, and *glochis*, a point. 203.

1. *T. palustre*. *Marsh Arrow-grass*. Capsule three-celled, nearly linear.—Root fibrous: leaves all radical, linear, channelled, smooth, nearly erect: flowers in a long terminal spike, reddish-green. Perennial: flowers in June and July: grows in wet meadows; common. Cattle are fond of it. *Eng. Bot.* vol. vi. pl. 366. *Eng. Fl.* vol. ii. p. 200. 571.

2. *T. maritimum*. *Sea Arrow-grass*. Capsule six-celled, egg-shaped.—Leaves radical, semi-cylindrical. Larger than the last. It has a salt taste, and cattle, especially cows, are fond of it. Perennial: flowers in June and July: grows in salt marshes, and pastures overflowed by the tide: common. *Eng. Bot.* vol. iv. pl. 255. *Eng. Fl.* vol. ii. p. 201. 572.

## 25. COL'CHICUM. COLCHICUM.

Calyx none. Corolla of one petal; tube angular, arising from the root; limb divided into six oblong, erect segments. Filaments awl-shaped, shorter than the corolla; anthers oblong, two-celled, four-valved. Germen imbedded in the root, roundish. Styles three, thread-shaped, as long as the stamens; stigmas linear, recurved, channelled, downy. Capsules three, superior, stalked, oblong, each one-celled. Seeds numerous, round.—Named from the country of *Colchis*. 204.

1. *C. autumnale*. Bulb egg-shaped, large.—In spring several narrow leaves arise, but the flower does not appear until September. The germen lies buried in the root all winter, and is raised in spring to perfect its seeds through the summer. Flower pale-purple. Perennial: flowers in September and October:

grows in moist meadows in many parts of England: rare. The roots have a good deal of acrimony. An infusion of them in vinegar, formed into a syrup by the addition of sugar or honey, is said to be a good expectorant and diuretic. *Eng. Bot.* vol. ii. pl. 133. *Eng. Fl.* vol. ii. p. 202. 573.

## POLYGYNIA.

### 26. ALIS'MA. WATER PLANTAIN.

Calyx inferior, of three egg-shaped, permanent leaves. Petals three, roundish, much larger than the calyx, deciduous. Filaments awl-shaped, short; anthers roundish. Germen superior, more than five. Styles simple; stigmas blunt. Capsules more than five, compressed. Seeds small, solitary.—Named from *alis*, the Celtic for water. 205.

1. *A. Plantago*. *Great Water Plantain*. Leaves egg-shaped, acute; capsules obtusely triangular.—Root fibrous: leaves all radical, on long stalks, erect: flower-stalk several feet high, panicled: flowers terminal, solitary, pale-purplish. Perennial: flowers in July: grows in ditches, pools, lakes and rivers: common. *Eng. Bot.* vol. xii. pl. 837. *Eng. Fl.* vol. ii. p. 203. 574.

2. *A. Damasoinum*. *Star-headed Water Plantain*. Leaves oblong, heart-shaped at the base; capsules awl-shaped; styles six.—Root fibrous: leaves all radical, floating: flower-stalks about six inches high, bearing one or two whorls of white flowers. Perennial: flowers in June and July: grows in ditches and pools in England: not common. *Eng. Bot.* vol. xxiii. pl. 1615. *Eng. Fl.* vol. ii. p. 204. 575.

3. *A. natans*. *Floating Water Plantain*. Leaves elliptical, obtuse; capsules striated; flower-stalks simple.—Stems floating, thread-shaped, from three to ten feet long. Flower-stalks from the joints of the stem, erect, single-flowered. Petals large, white, with a yellow spot near the claw. Perennial: flowers in July and August: grows in lakes: rare. North Wales and Cumberland. Near Stranaer, Scotland. Howth Hill and Cunnemara, Ireland. *Eng. Bot.* vol. xi. pl. 775. *Eng. Fl.* vol. ii. p. 204. 576.

4. *A. ranunculoides*. *Lesser Water Plantain*. Leaves between linear and lance-shaped; capsules angular, acute, numerous, in a globular head; stem none.—Root fibrous: leaves all radical, erect, on long stalks: flower-stalks radical, erect, from three to ten inches high, with one or two whorls of pale-purplish flowers. Perennial: flowers in August: grows in ditches and bogs: not common. *Eng. Bot.* vol. v. pl. 326. *Eng. Fl.* vol. ii. p. 205. 577.

## CLASS VII. HEPTANDRIA.

### *Plants bearing Flowers with Seven Stamens.*

#### Order I. MONOGYNIA. *One Pistil.*

- . TRIENTA'LIS. Calyx of seven leaves. Corolla deeply divided into seven segments. Capsule seven-valved.

## HEPTANDRIA—MONOGYNIA

## 1. TRIENTALIS. CHICKWEED WINTER-GREEN.

Calyx inferior, of seven linear, acute, spreading, permanent leaves. Corolla of one petal, wheel-shaped, deeply divided into seven elliptical, flat, spreading segments. Filaments thread-shaped, spreading, shorter than the corolla; anthers oblong, recurved. Germen superior, round. Style cylindrical, as long as the stamens; stigma obtuse. Capsule globose, one-celled, seven-valved. Seeds few, roundish, tunicated.—Name of unknown origin. 206.

1. *T. Europea*. *European Chickweed Winter-green*. Leaves oblong; stem solitary, simple, erect, from three to six inches high, crowned with a tuft of leaves. A singularly elegant and beautiful plant: flower-stalks from among the leaves, hair-shaped, simple: flowers white, often tinged with red, and sometimes having only six segments, with six stamens. Perennial: flowers in June and July: grows in woods and on dry heaths, in Scotland and the north of England: rare. *Eng. Bot.* vol. i. pl. 15. *Eng. Fl.* vol. ii. p. 208. 578.

## CLASS VIII. OCTANDRIA.

*Plants bearing Flowers with Eight Stamens.*Order I. MONOGYNIA. *One Pistil.*\* *Flowers having both calyx and corolla.*

9. A'CER. *Petals five. Calyx five-cleft, inferior. Capsule winged.*
2. EPILO'BIIUM. *Petals four. Calyx four-cleft, superior. Capsule four-celled. Seeds bearded.*
1. GENOTHE'RA. *Petals four. Calyx four-cleft, superior. Capsule four-celled. Seeds beardless.*
3. CHLO'RA. *Corolla deeply divided into eight or six segments. Calyx of eight or six leaves, inferior. Capsule one-celled.*
4. VACCINIUM. *Corolla of one petal. Calyx four-cleft. Berry inferior.*
5. MENZIE'SIA. *Corolla of one petal. Calyx of one leaf. Capsule superior; partitions double, from the margin of the valves.*
7. ERICA. *Corolla of one petal. Calyx of four leaves. Capsule superior; partitions simple, from the centre of the valves.*
6. CALLUNA. *Corolla of one petal. Calyx double, each four-leaved. Capsule superior; partitions from the column, alternate with the valves, and unconnected with them.*

(*Monotropa.*)

\*\* *Flowers destitute of corolla.*

8. DA'PHNE. *Calyx four-cleft, coloured, inferior. Berry one-seeded.*

Order II. DIGYNIA. *Two Pistils.*

(*Polygonum. Chrysosplenium. Scleranthus.*)



Order III. TRIGYNIA. *Three Pistils.*

10. POLY'GONUM. *Calyx* divided into five deep segments, coloured, inferior. *Corolla* none. *Seed* one, naked.

Order IV. TETRAGYNIA. *Four Pistils.*

12. ADOXA. *Calyx* half-inferior. *Corolla* divided into four or five segments. *Berry* four or five-celled.  
 11. PA'RIS. *Calyx* four-leaved. *Petals* four, awl-shaped. *Berry* four-celled.  
 13. ELA'TINE. *Calyx* four-leaved. *Petals* four. *Capsule* superior, four-celled.

(*Sagina. Rhodiola.*)

## OCTANDRIA.—MONOGYNIA.

## 1. CENOTHERA. EVENING PRIMROSE.

*Calyx* superior, of one leaf, deciduous; tube cylindrical, limb deeply divided into four oblong segments. *Petals* four, inversely heart-shaped, attached to the summit of the tube of the calyx, and as long as the limb. *Filaments* awl-shaped, incurved, shorter than the petals; *anthers* oblong. *Germen* inferior, oblong, furrowed. *Stigma* divided into four obtuse, spreading segments. *Capsule* oblong, bluntly quadrangular, four-celled, four-valved. *Seeds* numerous, angular, beardless.—Name from *oinos*, wine, and *thera*, catching, the root having the odour of wine. 207.

1. *C. bien'nis*. *Common Evening Primrose*. Leaves between egg-shaped and lance-shaped, flat; stem rough, somewhat hairy; petals undivided.—Stem two or three feet high, leafy, angular: leaves alternate, acute, toothed, downy: flowers numerous, bright-yellow, in terminal spikes. Biennial: flowers in July, August, and September: grows on sand-banks, on the west coast of England; also in corn-fields: an American species naturalized. *Eng. Bot.* vol. xxi. pl. 1534. *Eng. Fl.* vol. ii. p. 211. 579.

## 2. EPILOBIUM. WILLOW-HERB.

*Calyx* superior, of one leaf, deeply divided into four oblong, coloured, deciduous segments. *Petals* four, circular, broadest at the outer part, notched, inserted between the segments of the calyx. *Filaments* awl-shaped, four alternate ones shorter; *anthers* oval, compressed, obtuse. *Germen* inferior, cylindrical, very long. *Style* thread-shaped; *stigma* thick, blunt, generally four-cleft. *Capsule* quadrangular, very long, four-celled, four-valved; partitions opposite the valves. *Seeds* numerous, oblong, small, crowned with down.—Named from *epi*, upon, and *lobos*, a pod. 208.

\* *Flowers irregular.*

1. *E. angustifolium*. *Rose-bay Willow-herb*. Leaves scattered, between linear and lance-shaped, veined, smooth; petals unequal;

stamens declining.—Stems from three to six feet high: flowers rose-coloured, numerous, in long, terminal, erect clusters. Perennial: flowers in July and August: grows in moist meadows, shady and rocky places: not common. *Eng. Bot.* vol. xxviii. pl. 1947. *Eng. Fl.* vol. ii. p. 212. 580.

• \*\* *Flowers regular. Stigma deeply four-cleft.*

2. *E. hirsutum.* Great Hairy Willow Herb. Codlings and Cream. Leaves between egg-shaped and spear-shaped, half embracing the stem, hairy; stem very much branched; root creeping.—Stems about four feet high: flowers in leafy clusters, large, of a fine rose-colour: the top shoots have a delicate fragrance resembling that of scalded codlings. Perennial: flowers in July: grows in watery places, ditches, banks of rivers and lakes: common. *Eng. Bot.* vol. xii. pl. 838. *Eng. Fl.* vol. ii. p. 213. 581.

3. *E. parviflorum.* Small-flowered Hoary Willow-herb. Leaves lance-shaped, sessile, downy; stem little branched, woolly; root fibrous.—Stem about two feet high: flowers small, pale rose-colour. Perennial: flowers in July: grows in watery places, ditches, &c.: very common. *Eng. Bot.* vol. xii. pl. 795. *Eng. Fl.* vol. ii. p. 214. 582.

4. *E. montanum.* Broad Smooth-leaved Willow-herb. Leaves egg-shaped, toothed, opposite; stem round; stigma in four deep segments.—Stem from one to two feet high, erect: lower leaves opposite, upper alternate: flowers light-purple, not numerous. Perennial: flowers in July: grows in dry shady places: common. *Eng. Bot.* vol. xxvii. pl. 1177. *Eng. Fl.* vol. ii. p. 214. 583.

\*\*\* *Flowers regular. Stigma undivided.*

5. *E. roseum.* Pale Smooth-leaved Willow-herb. Leaves egg-shaped, toothed, opposite; stem obscurely four-cornered; stigma undivided.—Leaves smooth, thin, and delicate: flowers light purple. Perennial: flowers in July: grows in waste boggy grounds or watery places: rare. *Eng. Bot.* vol. x. pl. 693.\* *Eng. Fl.* vol. ii. p. 215. 584.

6. *E. tetragonum.* Square-stalked Willow-herb. Leaves lance-shaped, sessile, minutely toothed; stem four-cornered; stigma undivided.—Stem from twelve to eighteen inches high: flowers pale-purple, few, in leafy clusters. Perennial: flowers in July: grows in marshes, and by the sides of ditches and rivulets: common. *Eng. Bot.* vol. xxviii. pl. 1948. 585.

7. *E. palustre.* Round-stalked Marsh Willow-herb. Leaves narrow, lance-shaped, sessile, slightly toothed; stem round; stigma undivided.—Stem from six to eighteen inches high: flowers pale-purple, in leafy clusters. Perennial: flowers in July: grows in marshes, and by the sides of ditches and rivulets: common. *Eng. Bot.* vol. v. pl. 346. *Eng. Fl.* vol. ii. p. 216. 586.

8. *E. alsinifolium.* Chickweed-leaved Willow-herb. Leaves egg-shaped, acute, toothed, stalked; stem decumbent at the base, bluntly four-cornered; root creeping.—Stems about six inches long: flowers rose-coloured. Perennial: flowers in June and July: grows on the edges of mountain rills, in the north of England, and in the Highlands of Scotland. *Eng. Bot.* vol. xxviii. pl. 2000. *Eng. Fl.* vol. ii. p. 216. *Fl. Scot.* p. 117. 587.

9. *E. alpinum.* Alpine Willow-herb. Leaves elliptical, obtuse,

nearly entire, on short stalks; stem decumbent, two or three-flowered; root creeping.—Stems three or four inches long: flowers generally two, rose-coloured. Perennial: flowers in June and July: grows on the edges of rills on almost all the Highland mountains. *Eng. Bot.* vol. xxviii. pl. 2001. *Eng. Fl.* vol. ii. p. 217. 588.

### 3. CMLORA. YELLOW-WORT.

Calyx inferior, of eight linear, spreading, permanent leaves. Corolla of one petal, salver-shaped; the tubes shorter than the calyx; the limb with eight elliptical segments, longer than the tube. Filaments thread-shaped, short; anthers linear, erect. Germen superior, oblong. Style cylindrical, erect; stigma two, oblong, cleft. Capsule egg-shaped, one-celled, two-valved. Seeds very numerous, angular.—Named from *chloris*, pale-green. 209.

1. *C. perfoliata*. *Perfoliate Yellow-wort*. Leaves egg-shaped, opposite, united; panicle many-forked, many-flowered.—Stem about a foot high, erect, round, paniced: flowers numerous, bright-yellow. Annual: flowers in July and August: grows in chalky and hilly ground: not common. *Eng. Bot.* vol. i. pl. 60. *Eng. Fl.* vol. ii. p. 218. 589.

### 4. VACCINIUM. WHORTLE-BERRY.

Calyx superior, very small, permanent, four-toothed. Corolla of one petal, bell-shaped, with four revolute segments. Filaments awl-shaped, flattened, fixed to the receptacle; anthers oblong, with two points, erect, terminal. Germen inferior, roundish; style simple, cylindrical, erect, longer than the stamens. Stigma obtuse. Berry globular, with a central depression, four-celled. Seeds few, small.—Name of unknown origin. 210.

\* *Leaves deciduous.*

1. *V. Myrtillus*. *Bilberry*. *Blaeberry*. *Black Whortle-berry*. Flower-stalks solitary, one-flowered; leaves egg-shaped, serrated, smooth; stem and branches acutely angular.—Stem bushy, from one to two feet high, smooth, green: leaves stalked, thin, deciduous: corolla pale reddish-purple: berry bluish-black. The berries are agreeable and wholesome, but stain the lips and fingers of a dark-purple colour: they are eaten by grouse and other birds. A shrub: flowers in May: grows on heaths and hilly ground: common. *Eng. Bot.* vol. vii. pl. 456. *Eng. Fl.* vol. ii. p. 219. 590.

2. *N. uliginosum*. *Great Bilberry*. *Bog Whortle-berry*. Flower-stalks one-flowered; leaves inversely egg-shaped, entire, smooth; branches round.—About two feet high: corolla flesh-coloured: berry large, bluish-black. A shrub: flowers in May: grows on boggy mountainous heaths, in the north of England and in Scotland. *Eng. Bot.* vol. ix. pl. 581. *Eng. Fl.* vol. ii. p. 219. 591.

\*\* *Leaves evergreen.*

3. *V. Vitis-idaea*. *Red Whortle-berry*. *Cow-berry*. Clusters terminal, drooping; leaves inversely egg-shaped, revolute, minutely toothed, dotted beneath; corolla bell-shaped.—Stems from three to six inches high: flowers flesh-coloured: berry deep-red. The

berries are very acid and rather harsh, but are made into jelly and rob. A shrub: flowers in June: grows on dry heaths: frequent. *Eng. Bot.* vol. ix. pl. 598. *Eng. Fl.* vol. ii. p. 220. 592.

4. *V. Oxycoccos*. Marsh Whortle-berry. Cran-berry. Flowers terminal; leaves egg-shaped, entire, revolute, acute; stems creeping, thread-shaped, smooth; corolla deeply four-cleft.—Stems slender, prostrate: flowers several together, pale-red: berry deep-red. The berries made into tarts are much esteemed. A small trailing shrub: flowers in June: grows in boggy heaths: frequent. *Eng. Bot.* vol. v. pl. 319. *Eng. Fl.* vol. ii. p. 221. 593.

### 5. MENZIESIA. MENZIESIA.

Calyx inferior, of one leaf, four-cleft or five-cleft, permanent. Corolla of one petal, inflated, deciduous; limb divided into four or five spreading segments. Filaments eight or ten, thread-shaped, shorter than the corolla; anthers oblong, cleft at the base. Germen superior, roundish. Style angular, erect; stigma obtuse, with four or five notches. Capsule oblong, with four or five valves and cells; partitions double, formed by the inflected edges of the valves. Seeds numerous, small, oblong.—Named after *Archibald Menzies*, a Scottish botanist. 211.

1. *M. polifolia*. Irish *Menziesia*. Leaves egg-shaped, the margins curved backwards, white and downy beneath; flowers four-cleft, octandrous, in terminal leafy clusters.—Stems bushy, a foot or more high: leaves rather crowded: flowers drooping, purplish-red. A shrub: flowers in June and July: grows on mountainous heaths in the counties of Mayo and Galway. *Eng. Bot.* vol. i. pl. 35. *Eng. Fl.* vol. ii. p. 223. 594.

2. *M. cærulea*. Scottish *Menziesia*. Leaves linear, obtuse, with cartilaginous teeth; flowers five-cleft, decandrous.—Stem four or five inches high, decumbent below, leafy above: flowers four or five at the top of the highest branch, drooping: corolla pale-purple. A shrub: flowers in June and July. Found near Aviemore, in Strathpey, by Mr. Brown, and in the Shiant Isles by Mr. G. Don. *Eng. Bot.* vol. xxxv. pl. 2469. *Eng. Fl.* vol. ii. p. 222. 595.

### 6. CALLUNA. LING.

Calyx inferior, permanent, double; the outer of four oblong, blunt, fringed leaves; the inner of four elliptical, coloured, polished leaves, concealing the corolla. Corolla of one petal, bell-shaped, deeply four-cleft, erect, much shorter than the inner calyx. Filaments thread-shaped, short, curved; anthers erect, terminal, lance-shaped, united before bursting, with two hooked bristles at the base. Germen superior, orbicular, depressed. Style cylindrical, erect; stigma knobbed, with four notches. Capsule orbicular, four-valved, four-celled; the partitions unconnected with the valves, fixed to a central column, seeds numerous, small, oblong.—Named from *cuñuno*, to cleanse or adorn. 212.

1. *C. vulgaris*. Common Ling. A bushy shrub, from six inches to

four feet high : stem irregularly branched : leaves somewhat arrow-shaped, closely imbricated on the young branches, which have a four-cornered figure : inner calyx rose-coloured : corolla paler. There is a variety with white flowers. Flowers in August : grows on heaths : common. This plant makes excellent and durable thatch, is capable of being converted into ropes for various purposes, forms excellent brooms, and affords a fine yellow dye. Grouse feed almost exclusively upon it and *Erica cinerea*. *Eng. Bot.* vol. xv. pl. 1013. *Eng. Fl.* vol. ii. p. 225. 596.

#### 7. ERICA. HEATH.

Calyx inferior, of four oblong, permanent leaves. Corolla of one petal, egg-shaped or bell-shaped, four-cleft, withering. Filaments hair-shaped ; anthers terminal, erect, cleft, united before bursting. Germen superior, roundish. Style thread-shaped, erect ; stigma obtuse. Capsule roundish, four-celled, four-valved, each valve bearing a partition from the centre. Seeds numerous, minute.—Named from *erico*, to break, on account of its supposed property of destroying stone. 213.

1. *E. cinerea*. *Common Heath*. *Fine-leaved Heath*. Anthers with two serrate appendages at the base ; style a little prominent : stigma knobbed ; leaves three together.—Stem a foot or more high, branched : leaves narrow, linear, three together : flowers numerous, in dense terminal clusters, drooping, purplish-red. It is applied to the same purposes as *Calluna vulgaris*. A shrub : flowers in July and August : grows on heaths, abundantly. *Eng. Bot.* vol. xv. pl. 1015. *Eng. Fl.* vol. ii. p. 226. 597.

2. *E. Mediterranea*. *Mediterranean Heath*. Anthers without appendages, protruded as well as the style ; corolla pitcher-shaped, narrow ; leaves four together.—A shrub : flowers in April. Discovered in 1830 by Mr. Mackay in boggy ground, Cunnemara, Ireland, covering a large space of ground. *Eng. Bot. Suppl.* pl. 2774. *Brit. Fl.* 4th ed. p. 159. 598.

3. *E. carnea*. *Flesh-coloured Heath*. Anthers without appendages, protruded as well as the style ; corolla nearly cylindrical ; leaves four together.—A shrub : flowers in May and June. Galway, Ireland ; first found by Miss Martin. *Bot. Mag.* pl. 11. *Brit. Fl.* 4th ed. p. 159. 599.

4. *E. Tetralix*. *Cross-leaved Heath*. Anthers with two simple bristles at the base ; styles nearly concealed ; leaves fringed, four together.—Stems from six to twelve inches high, branched below : leaves crowded, spreading, lance-shaped, four together, downy and bristly : flowers in dense terminal clusters, rose-coloured, sometimes white. A shrub : flowers in July and August ; grows in boggy heaths : not uncommon. *Eng. Bot.* vol. xv. pl. 1014. *Eng. Fl.* vol. ii. p. 226. A variety of this species with broader leaves, and having the style longer than the corolla, found in Cunnemara, Ireland, is considered by many botanists as specifically distinct from the present. It is the *E. Mackayii*, *Mackay's Heath*. *Comp. to Bot. Mag.* vol. i. p. 159. *Brit. Fl.* 4th ed. p. 158. 600.

5. *E. vagans*. *Cornish Heath*. Anthers without appendages, protruded as well as the style ; corolla bell-shaped ; leaves four together.—Stems about two feet high, branched : leaves linear,

smooth: flower-stalks axillar, crowded together for a large space about the middle of each branch: flowers rose-red. A shrub: flowers in July and August: grows on heaths in Cornwall, abundantly. *Eng. Bot.* vol. i. pl. 3. *Eng. Fl.* vol. ii. p. 227. 601.

6. *E. ciliaris*. *Fringed Heath*. Anthers without appendages, inclosed in the egg-shaped, inflated corolla; leaves four together, fringed with gland-tipped hairs.—A shrub: flowers in June and July: grows in boggy ground in Cornwall. *Eng. Bot. Suppl.* pl. 2618. *Brit. Fl.* 4th ed. p. 159. 602.

#### 8. DAPHNE. SPURGE-LAUREL.

Calyx inferior, of one leaf, tubular, withering: tube cylindrical, closed, longer than the limb, which is divided into four egg-shaped, coloured segments. Corolla none. Filaments short, in two rows; anthers roundish, two-celled, erect. Germen egg-shaped. Style very short; stigma knobbed, depressed. Berry oval, one-celled. Seed single, oval, large.—Named after the nymph *Daphne*. 214.

1. *D. Mezereum*. *Mezereum*. *Spurge-olive*. Flowers sessile on the stem, generally three together; leaves lance-shaped, deciduous.—A shrub four or five feet high: flowers rose-coloured, highly fragrant: flowers in February and March: grows in woods, in the south of England: rare; probably not indigenous. The whole plant is very acrid. *Eng. Bot.* vol. xx. pl. 1381. *Eng. Fl.* vol. ii. p. 228. 603.

2. *D. Lauricola*. *Spurge-laurel*. Clusters axillar, simple, each of about five flowers, drooping; leaves between inversely egg-shaped and spear-shaped, evergreen.—A shrub about three feet high: flowers deep-green. The whole plant is acrid, like the preceding. Flowers in March: grows in woods and hedges: not often planted: rare. *Eng. Bot.* vol. ii. pl. 119. *Eng. Fl.* vol. ii. p. 229. 604.

#### 9. ACER. MAPLE.

Calyx inferior, of one leaf, with five oblong, acute segments. Petals five, inversely egg-shaped, of the same size as the segments of the calyx. Filaments awl-shaped, short; anthers roundish, two-lobed. Germen superior, two-lobed, compressed. Style cylindrical; stigmas two or three, pointed. Capsules two or three, united at the base, roundish, compressed, each terminating in a membranous wing. Seeds one or two, roundish.—Name, *acer*, sharp, the wood having been employed for spears. 215.

1. *A. Pseudo-platanus*. *Greater Maple*, or *Sycamore*. Leaves five-lobed, unequally serrate; flowers in compound, pendent clusters.—A large tree, common but not indigenous: flowers in May: grows in woods: common. *Eng. Bot.* vol. v. pl. 303. *Eng. Fl.* vol. ii. p. 230. 605.

2. *A. campêtre*. *Common Maple*. Leaves five-lobed, entire at the margin, the lower lobes notched; flowers in erect corymbose clusters.—A tree with cracked, corky bark. The wood is fine-grained and hard, and is much used by turners: flowers in May and June: grows in woods: common. *Eng. Bot.* vol. v. pl. 304. *Eng. Fl.* vol. ii. p. 231. 606.

## TRIGYNIA.

## 10. POLY'GONUM. BUCK-WHEAT.

Calyx inferior, turbinate, coloured, deeply divided into five egg-shaped, permanent segments. Corolla none. Filaments variable in number, awl-shaped, very short; anthers roundish. Germen superior, roundish, triangular, or compressed. Styles generally three, in some species two, thread-shaped, very short; stigmas simple. Seed solitary, triangular, or compressed, pointed.—Named from *polye*, many, and *gonu*, a knee or joint.  
216.

1. *P. Bistorta*. *Great Bistort. Snake-weed*. Stem simple, bearing a single spike; leaves egg-shaped, waved, running down into the foot-stalks.—Stems erect, about two feet high, leafy: flowers rose-coloured. Perennial: flowers in June: grows in pastures and meadows: frequent. *Eng. Bot.* vol. viii. pl. 509. *Eng. Fl.* vol. ii. p. 236. 607.

2. *P. viviparum*. *Alpine Bistort*. Stem simple, bearing a single spike; leaves lance-shaped, revolute at the margin.—Stem from three to eight inches high, erect, leafy: flowers pale-red. Perennial: flowers in June and July: grows in mountain pastures: frequent. *Eng. Bot.* vol. x. pl. 669. *Eng. Fl.* vol. ii. p. 237. 608.

3. *P. aviculare*. *Common Knot-grass*. Flowers axillar; leaves lance-shaped, rough-edged; stem procumbent.—Stems several, decumbent, spreading in all directions: leaves alternate, stalked: flowers two or three together, reddish. Annual: flowers in summer and autumn: grows in fields, waste places, by roads, &c.: common. *Eng. Bot.* vol. xviii. pl. 1252. *Eng. Fl.* vol. ii. p. 238. 609.

4. *P. Roberti*. *Robert's Knot-grass*. Flowers axillar; leaves lance-shaped, distant; fruit shorter than the calyx, smooth.—A large straggling species, appearing intermediate between the preceding and following. Annual: flowers in August and September: grows on the sea-shore: common. *Eng. Bot. Suppl.* pl. 2805. *Brit. Fl.* 4th ed. p. 163. 610.

5. *P. maritimum*. *Sea-side Knot-grass*. Flowers axillar; leaves lance-shaped, fleshy, glaucous, crowded; fruit longer than the calyx, smooth. Annual: flowers in August and September: grows in the south of England, and the Channel Islands, on the sea-shore. *Eng. Bot. Suppl.* pl. 2804. *Brit. Fl.* 4th ed. p. 164. 611.

6. *P. Fagopyrum*. *Buck-wheat. Branks*. Leaves between heart-shaped and arrow-shaped; stem nearly erect, without prickles; angles of the seeds equal.—Clusters many-flowered, panicked, spreading: flowers variegated with red, green, and white: the seeds furnish a nutritious meal, which in some parts of England is made into thin cakes called crumpets. It is usual for farmers to sow a crop of buck-wheat, and plough it down for manure. Annual: flowers in July and August: grows in cultivated fields, but is not indigenous. *Eng. Bot.* vol. xv. pl. 1044. *Eng. Fl.* vol. ii. p. 239. 612.

7. *P. Convivulus*. *Black Bindweed*. Leaves between heart-shaped and arrow-shaped; stem twining, angular; segments of the calyx bluntly keeled; fruit striated with minute points.—Stem

twining to the height of several feet: clusters loose, interrupted, leafy: flowers greenish-white or reddish. Annual: flowers from June to October; grows in corn-fields, gardens, and waste ground: common. *Eng. Bot.* vol. xiv. pl. 941. *Eng. Fl.* vol. ii. p. 240. 613.

8. *P. dumetorum*. *Copse Buck-wheat*. Leaves between heart-shaped and arrow-shaped; stem twining, striated; segments of the calyx with a membranous wing; fruit smooth and shining.—Annual: flowers in August and September: grows in hedges and by road-sides: rare. Near London and Norwich: Sussex. Near Moffat, Dumfries-shire. *Brit. Fl.* 4th ed. p. 164. 614.

\*  
\*\* *Styles usually two.*

9. *P. amphibium*. *Amphibious Persicaria*. Styles two, united half way up; stamens five; spike egg-shaped; leaves lance-shaped.—Stem round, leafy: leaves stalked, floating, minutely serrate, smooth, slightly heart-shaped at the base: flowers rose-red, in beautiful dense spikes. When the plant grows out of the water, the leaves become narrower and hairy, and the stem shorter. Perennial: flowers in July and August: grows in ditches, ponds, and rivers: common. *Eng. Bot.* vol. vii. pl. 435. *Eng. Fl.* vol. ii. p. 232. 615.

10. *P. Persicaria*. *Spotted Persicaria*. Styles two, united half way up; stamens six; spikes dense, oblong, erect; stipules fringed.—Stem erect, branched, leafy: leaves lance-shaped, entire, shortly stalked, generally marked about the middle with a blackish spot: flowers rose-coloured. Annual: flowers in July and August: grows in ditches and wet fields: common. *Eng. Bot.* vol. xi. pl. 756. *Eng. Fl.* vol. ii. p. 233. 616.

11. *P. lapathifolium*. *Pale-flowered Persicaria*. Styles two, distinct; stamens six; flower-stalks rough; stipules not fringed.—Stem about a foot high, branched, swelled above the joints: leaves broadly lance-shaped, rough-edged, sometimes marked with a blackish spot: flowers reddish or pale-green. Annual: flowers in July and August: grows in cultivated ground and on dung-hills: common. *Eng. Bot.* vol. xx. pl. 1382. *Eng. Fl.* vol. ii. p. 234. 617.

12. *P. mite*. *Lax-flowered Persicaria*. Styles two, united half way up; stamens six; clusters loose, filiform, drooping; leaves lance-shaped.—Flowers red. Differs from the following in wanting the glands of the flowers. Annual: flowers in August: grows in the south of England. *Brit. Fl.* 4th ed. p. 165. 618.

13. *P. Hydropiper*. *Biting Persicaria*. Styles two, united half way up; stamens six; clusters loose; interrupted, drooping; stem erect; leaves lance-shaped, waved, without spots.—Stem two feet high, swelled above each joint, smooth: clusters terminal, long and slender; flowers pale-green. The whole plant has an acrid, burning taste, which is supposed to reside in glandular dots sprinkled over it. Annual: flowers in September: grows in ditches and pools: frequent. *Eng. Bot.* vol. xiv. pl. 989. *Eng. Fl.* vol. ii. p. 235. 619.

14. *P. minus*. *Small Creeping Persicaria*. Styles two, united; stamens six; clusters loose, slender, nearly erect; stem decumbent at the base; leaves between linear and lance-shaped.—Stem about a foot high, branched at the base, swelled above each



joint: flowers small, reddish-green. Annual: flowers in September: grows in watery places: not common. *Eng. Bot.* vol. xv. pl. 1043. *Eng. Fl.* vol. ii. p. 235. 620.

## TETRAGYNIA.

### 11. PARIS. HERB PARIS.

Calyx inferior, of four lance-shaped, spreading, permanent leaves. Petals four, awl-shaped, permanent. Filaments awl-shaped; anthers long, linear, two-celled, attached to the middle of the filaments. Germen superior, roundish. Styles four, spreading; stigmas oblong, downy above. Berry globular, with four blunt corners, four-celled. Seeds several, globular. —Named from *par*, equal. 217.

1. *P. quadrifolia.* *Herb Paris.* *True-love. One-berry.* Leaves egg-shaped, generally four.—Stem about a foot high, round, with four broadly egg-shaped leaves at the top: petals and calyx green: anthers and styles yellowish: berry purplish-black. The whole plant is said to be narcotic. Perennial: flowers in May and June: grows in woods: not common. *Eng. Bot.* pl. 7. *Eng. Fl.* vol. ii. p. 241. 621.

### 12. ADOXA. MOSCHATELL.

Calyx half-inferior, divided into two or three spreading, permanent segments. Corolla of one petal, wheel-shaped, divided into four or five egg-shaped, acute segments, longer than the calyx. Filaments eight or ten, awl-shaped; anthers roundish. Germen half-superior. Styles four or five, simple, short; stigmas simple. Berry globular, one-celled, half invested with the permanent calyx. Seeds four.—Named from *a*, without, and *doxa*, glory, from its plain appearance. 218.

1. *A. Moschatellina.* *Tuberous Moschatell.*—Root of several imbricated scales: stem solitary, erect, three or four inches high: leaves compound: flowers pale-green, in a terminal head, four of them five-cleft, with ten stamens, the uppermost one four-cleft, with eight stamens. Perennial: flowers in April and May: grows in moist shady places: common. *Eng. Bot.* vol. vii. pl. 453. *Eng. Fl.* vol. ii. p. 242. 622.

### 13. ELA'TINE. WATER-WORT.

Calyx inferior, of four or three roundish, spreading, permanent leaves. Petals four or three, egg-shaped, spreading. Filaments awl-shaped; anthers roundish. Germen superior, globular. Styles four or three, erect, very short; stigmas simple. Capsule globose, four- or three-valved, four- or three-celled; the partitions attached only to the column. Seeds numerous, oblong.—Name doubtful. 219.

1. *E. hexandra.* *Small Hexandrous Water-wort.* Leaves opposite, spatulate; flowers hexandrous, with three petals; capsule three-celled.—Procumbent, branched, with solitary flowers,

having rose-coloured petals. Annual: flowers in July and August: grows in watery places in England: rare. Near Callander, Scotland. *E. tripetala* of *Eng. Fl.* vol. ii. p. 243. *Eng. Bot.* vol. xiv. pl. 955. 623.

2. *E. Hydropiper*. *Small Octandrous Water-wort*. Leaves opposite, spatulate; flowers octandrous, with four petals; capsule four-celled.—Annual: flowers in August? grows at Llyn Corron, in Anglesea, where it was discovered by Mr. J. E. Bowman in 1830. Hooker. *Eng. Bot. Suppl.* pl. 2670. *Brit. Fl.* 4th ed. p. 166. 624.

## CLASS IX. ENNEANDRIA.

*Plants bearing Flowers with Nine Stamens.*

### Order I. HEXAGYNIA. *Six Pistils.*

1. BUTOMUS. *Calyx* none. *Petals* six. *Capsule* six, many-seeded.

## ENNEANDRIA.—HEXAGYNIA.

### 1. BUTOMUS. *FLOWERING RUSH.*

*Calyx* none. *Petals* six, egg-shaped, withering, the three outer smaller and more acute. *Filaments* awl-shaped, shorter than the corolla, six in the outer row, three in the inner; anthers oblong, two-celled, two-valved. *Germens* six, oblong, tapering, ending each in a style; stigmas simple. *Capsules* six, oblong, tapering, one-celled, one-valved. *Seeds* numerous, oblong.—Named from *bous*, an ox, and *temno*, to cut. 220.

1. *B. umbellatus*. *Common Flowering Rush*. Root tuberous. Leaves erect, narrow, acute, all radical. Scape longer than the leaves, round, smooth, terminating in an umbel of beautiful rose coloured flowers. Perennial: flowers in June and July: grows in ditches, pools, slow rivers, and lakes, in England and Ireland. *Eng. Bot.* vol. x. pl. 651. *Eng. Fl.* vol. ii. p. 245. 625.

## CLASS X. DECANDRIA.

*Plants bearing Flowers with Ten Stamens.*

### Order I. MONOGYNIA. *One Pistil.*

\* *Flowers with more than one petal.*

1. MONOTROPA. *Petals* varying in number, bulging at the base. *Anthers* one-celled, two-valved.
4. PYROLA. *Petals* five. *Anthers* two-celled, opening with two pores.

**\*\* Flowers of one petal, regular.**

2. ANDROMEDA. Corolla egg-shaped, or bell-shaped. Capsule five-celled.

3. ARBUTUS. Corolla egg-shaped, transparent at the base. Berry five-celled.

(*Vaccinium*, *Myrtillus* and *Oxycoccus*. Cl. VIII.)

*Menziesia carrukea*. Cl. VIII.)

### Order II. DIGYNIA. Two Pistils.

7. SCLERANTHUS. Corolla none. Calyx of one leaf. Seeds two.

5. CHRYSOSPLENIUM. Corolla none. Calyx coloured. Capsule two-beaked. Seeds numerous.

6. SAXIFRAGA. Corolla of five petals. Calyx deeply divided into five segments. Capsule two-beaked. Seeds numerous.

8. SAPONARIA. Corolla of five petals. Calyx tubular, of one leaf, naked at the base. Capsule oblong.

9. DIANTHUS. Corolla of five petals. Calyx tubular, of one leaf, with scales at the base. Capsule oblong.

### Order III. TRIGYNIA. Three Pistils.

12. ARENARIA. Capsule one-celled, many-seeded. Petals five, undivided, spreading. Calyx five-leaved.

11. STELLARIA. Capsule one-celled, many-seeded. Petals five, deeply cleft, spreading. Calyx five-leaved.

13. CHERLERIA. Capsule one-celled, many-seeded. Petals none. Five glands at the base of the stamens.

10. SILENE. Capsule with three incomplete cells. Petals with claws, their limb cleft. Calyx of one leaf.

(*Polygonum Bistorta*.)

### Order IV. PENTAGYNIA. Five Pistils.

14. COTYLEDON. Capsules five, each with a scale at the base. Corolla of one petal.

15. SEDUM. Capsules five, each with a scale at the base. Corolla of five petals.

16. OXALIS. Capsule five-celled, angular, each cell two-seeded. Petals connected at the base.

18. LYCHNIS. Capsule one or five-celled, each cell many-seeded. Calyx tubular, membranous, five-toothed. Petals five, clawed, crowned.

17. AGROSTEMMA. Capsule one-celled. Calyx tubular, leathery, five-cleft. Petals five, clawed, with undivided limb.

19. CERASTIUM. Capsule one-celled. Calyx of five leaves. Petals five, cleft.

20. SREGULA. Capsule one-celled. Calyx of five leaves. Petals five, undivided.

(*Adoxa*. Cl. VIII. *Rhodiola*. *Stellaria uliginosa* and *scapigera*.)

## DECANDRIA.—MONOGYNIA.

### 1. MONOTROPA. BIRD'S-NEST.

Calyx none. Petals ten or eight, oblong, erect, deciduous, the outermost bulging at the base, hollow within, and bearing honey. Filaments awl-shaped, erect; anthers kidney-shaped, one-celled, two-valved. Germen superior, roundish, tapering. Style cylindrical, short, erect. Capsule egg-shaped, with five or four furrows, cells, and valves. Seeds numerous, minute, oval.—Named from *monos*, one, and *trepo*, to turn, the flowers being all turned one way. 221.

1. *M. Hypopitys*. *Yellow Bird's-nest*. Flowers in a drooping cluster; the lateral ones with eight, the terminal with ten stamens.—Root fibrous, stem about eight inches high, simple, with egg-shaped scales. Flowers large, of a yellowish colour. Perennial: flowers in July: grows on decayed stumps of trees: not common. *Eng. Bot.* vol. i. pl. 69. *Eng. Fl.* vol. ii. p. 247. 626.

### 2. ANDROMEDA. ANDROMEDA.

Calyx inferior, small, coloured, permanent, deeply divided into five acute segments. Corolla of one petal, egg-shaped or bell-shaped; the limb with five reflected segments. Filaments awl-shaped, shorter than the corolla; anthers two-celled, opening by two terminal pores, and surmounted by two horns. Germen roundish. Style cylindrical, longer than the stamens, permanent; stigma obtuse. Capsule roundish, five-cornered, five-celled, five-valved, with partitions from the centre of the valves. Seeds numerous, roundish.—Named after *Andromeda*, from a fancied resemblance in its circumstances. 222.

1. *A. polifolia*. *Marsh Andromeda*. *Wild Rosemary*. Clusters terminal; leaves alternate, lance-shaped, revolute, glaucous beneath.—A shrub, about six inches high, with pendulous, rose-coloured flowers, in clusters: flowers in June: grows on wet heaths in the north of England, and in Scotland: not common. *Eng. Bot.* vol. x. pl. 713. *Eng. Fl.* vol. ii. p. 251. 627.

### 3. ARBUTUS. BEAR-BERRY.

Calyx inferior, of one leaf, small, divided into five obtuse segments. Corolla of one petal, egg-shaped, transparent at the base; the limb with five small, recurved segments. Filaments awl-shaped, swelling in the middle, half as long as the corolla; anthers two-celled, opening by two terminal pores, and bearing two short horns. Germen superior, roundish, sitting upon a ten-dotted receptacle. Style cylindrical, as long as the corolla; stigma rather thick and blunt. Berry roundish, five-celled. Seeds small, angular, bony.—Name of Celtic origin: *ar*, rough, and *boise*, a bush. 223.

1. *A. Unedo*. *Strawberry Tree*. Stem woody; leaves smooth, bluntly serrate; panicles terminal; berry many-seeded.—A bushy tree, with reddish-brown bark, peeling off in thin flakes;

elliptical, bright-green, stiff leaves: paniced cluster of greenish-white flowers, tinged with red; and crimson large tuberculate berries. Flowers in September: grows about the Lake of Killarney, and a few other parts of Ireland. *Eng. Bot.* vol. xxxiv. pl. 2377. *Eng. Fl.* vol. ii. p. 252. 628.

2. *A. alpina*. *Black Bear-berry*. Stem procumbent; leaves inversely egg-shaped, serrate.—Leaves alternate, stalked, inversely egg-shaped, reticulated with numerous veins, deciduous: flowers white, in short terminal clusters: berry black. A small shrub: flowers in May and June: grows on dry mountainous heaths in Scotland: rare. *Eng. Bot.* vol. xxix. pl. 2030. *Eng. Fl.* vol. ii. p. 253. 629.

3. *A. Uva-ursi*. *Red Bear-berry*. Stem procumbent; leaves inversely egg-shaped, smooth, entire.—Leaves alternate, stalked, thick, stiff, veiny, evergreen, wrinkled: flowers pale rose-coloured or white, in short, drooping, terminal clusters: berry bright-red, mealy and harsh. A small shrub: flowers in June: grows on dry heaths, abundantly. The whole plant is highly astringent, and has been employed in calculus. The berries are eaten in the Highlands, although rather harsh. *Eng. Bot.* vol. x. pl. 714. *Eng. Fl.* vol. ii. p. 253. 630.

#### 4. PYROLA. WINTER-GREEN.

Calyx inferior, of one leaf, permanent, deeply divided into five rounded segments. Petals five, roundish, spreading. Filaments awl-shaped, curved, shorter than the corolla; anthers large, pendulous, two-celled, each opening by a round pore at the top. Germen superior, roundish, five-lobed. Style thread-shaped, longer than the stamens, permanent; stigma thickened, somewhat notched. Capsule globular, depressed, five-cornered, five-celled, five-valved. Seeds very numerous, minute, oval, each in a membranous coat.—Name from *pyrus*, a pear-tree, the leaves having some resemblance. 224.

1. *P. rotundifolia*. *Round-leaved Winter-green*. Stamens ascending; style twice as long, declining and recurved; leaves nearly round, obscurely crenate.—Flower-stalk about eight inches high, triangular, terminating in an oblong, erect cluster of numerous white, fragrant flowers. Perennial: flowers in July and August: grows in moist woods: rare. *Eng. Bot.* vol. iii. pl. 213. *Eng. Fl.* vol. ii. p. 255. 631.

2. *P. média*. *Intermediate Winter-green*. Stamens all regularly incurvate; style twice as long, deflected; leaves nearly orbicular, crenate.—Nearly as large as the preceding, with a triangular, spirally-twisted stalk, terminating in a cluster of smaller pendulous white flowers, with a delicate pink tinge at the margin. Perennial: flowers in July and August: grows in dry woods: rare in England and Ireland, common in Scotland. *Eng. Bot.* vol. xxviii. pl. 1945. *Eng. Fl.* vol. ii. p. 256. 632.

3. *P. minor*. *Lesser Winter-green*. Stamens all regularly incurvate; style of the same length, straight; leaves inversely egg-shaped, crenate.—Stalk four-cornered, slightly twisted, terminating in a long and slender cluster of drooping, pale rose-coloured flowers. Perennial: flowers in July and August: grows in dry grounds and thickets: common in the north of England and Scotland. *Eng. Bot.* vol. iii. pl. 152. *Eng. Fl.* vol. ii. p. 158. 633.

4. *P. secunda*. *Serrate Winter-green*. Leaves egg-shaped, acute, serrate; flowers drooping, all inclining one way.—Stalk about four inches long, with a dense cluster of white, drooping flowers. Perennial: flowers in July and August: grows in fir-woods in Scotland: not common. *Eng. Bot.* vol. viii. pl. 517. *Eng. Fl.* vol. ii. p. 250. 634.

5. *P. uniflora*. *Single-flowered Winter-green*. Stalk single-flowered; leaves egg-shaped, acute, serrate.—Root creeping: stems reclining, an inch or two long, simple: leaves egg-shaped, acute, sharply serrate: stalk about three inches long, erect, bearing a single, large, white fragrant flower. Perennial: flowers in July: grows in woods in Scotland: rare. Fir-wood near Brodie House; Knock of Alves, near Elgin; Coull, in Ross-shire. *Eng. Bot.* vol. iii. pl. 146. *Eng. Fl.* vol. ii. p. 258. 635.

## DIGYNIA.

### 5. CHRYSOSPLENIUM. GOLDEN-SAXIFRAGE.

Calyx superior, of one leaf, deeply divided into four or five unequal, spreading, permanent, coloured segments. Corolla none. Nectary a glandular ring within the insertion of the stamens. Filaments eight or ten, awl-shaped, erect, very short; anthers roundish, two-lobed. Germen inferior, roundish, terminated by two awl-shaped styles, as long as the stamens. Stigmas obtuse. Capsule two-beaked, one-celled, two-valved. Seeds roundish, numerous, small.—Named from *chrysos*, gold, and *splen*, the spleen. 225.

1. *C. alternifolium*. *Alternate-leaved Golden-saxifrage*. Leaves alternate.—Roots fibrous: stem four or five inches high, angular, decumbent: leaves kidney-shaped, broadly crenate; radical ones on long stalks, those of the stem on short stalks: flowers in small umbels, greenish-yellow, four-cleft and with eight stamens, excepting the uppermost. Perennial: flowers in May: grows on the borders of rivulets in shady places: not common. *Eng. Bot.* vol. i. pl. 54. *Eng. Fl.* vol. ii. p. 260. 636.

2. *C. oppositifolium*. *Opposite-leaved Golden-saxifrage*. Leaves opposite.—About the same size as the last, of a paler green, with smaller leaves. Perennial: flowers in May: grows in rivulets in shady places: common. *Eng. Bot.* vol. vii. pl. 490. *Eng. Fl.* vol. ii. p. 260. 637.

### 6. SAXIFRAGA. SAXIFRAGE.

Calyx inferior, half-inferior, or nearly superior, of one leaf, divided into five permanent segments. Petals five, attached to the calyx, narrow at the base, spreading. Filaments awl-shaped, spreading; anthers roundish, two-lobed. Germen superior, or more or less inferior, roundish, terminating in two short, spreading styles. Stigmas obtuse. Capsule nearly egg-shaped, two-beaked, two-celled. Seeds minute, numerous, roundish.—Named from *saxum*, a stone, and *frango*, to break. 226.

\* *Leaves all radical, undivided.*

1. *S. Géum*. *Kidney-leaved Saxifrage*. Leaves roundish-kidney-

shaped, notched, hairy; footstalks linear, channelled; flower-stalk panicled; capsule superior.—Leaves in tufts, numerous, spreading on long stalks: flowers small, with a reddish calyx, the petals cream-coloured, purplish at the base, with a yellow spot in the middle of the disk. Perennial: flowers in June: grows on mountains in the south of Ireland. *Eng. Bot.* vol. xxii. pl. 1561. *Eng. Fl.* vol. ii. p. 261. 638.

2. *S. hirsuta*. *Hairy Oval-leaved Saxifrage*. Leaves roundish-oval, with sharp cartilaginous notches, slightly hairy, heart-shaped at the base, with linear foot-stalks, much longer than the leaves.—Leaves longer than broad, deep-green: flowers panicled, the petals oblong, yellowish, dotted with purple. Perennial: flowers in June: grows on mountains in Ireland: rare. *Eng. Bot.* vol. xxxiii. pl. 2322. *Eng. Fl.* vol. ii. p. 262. 639.

3. *S. umbrösa*. *London Pride*. *None-so-pretty*. Leaves inversely egg-shaped, smooth, with cartilaginous acutely crenate margins; scape panicled; capsule superior.—Stalk from six to ten inches high: panicle branched: petals pale flesh-coloured, yellow near the base, spotted with crimson on the disk: capsule and calyx reddish. Perennial: flowers in June: grows abundantly in mountainous situations in the south and west of Ireland. *Eng. Bot.* vol. x. pl. 663. *Eng. Fl.* vol. ii. p. 263. 640.

4. *S. stelläris*. *Starry Saxifrage*. Leaves oblong, inclining to wedge-shaped, coarsely serrate, tapering and entire at the base; panicle corymbose, few-flowered; capsule superior.—Stalks about four inches high: flowers white, with two yellow spots at the base of the petals. Perennial: flowers in June: grows by rills, towards the summit of high mountains: not rare. *Eng. Bot.* vol. iii. pl. 167. *Eng. Fl.* vol. ii. p. 265. 641.

5. *S. nivälis*. *Clustered Alpine Saxifrage*. Leaves inversely egg-shaped, serrate, tapering, and entire at the base; cluster dense, few-flowered; capsule half-inferior.—This species has great resemblance to the last, but is shorter and stouter: petals white, with two pale-green spots. Perennial: flowers in June and July: grows in clefts of rocks on the summits of the higher mountains of Wales and the Highlands of Scotland. *Eng. Bot.* vol. vii. pl. 440. *Eng. Fl.* vol. ii. p. 265. 642.

**\*\* Stem leafy. Leaves undivided.**

6. *S. oppositifolia*. *Purple Saxifrage*. Leaves egg-shaped, opposite, fringed, imbricated; flowers solitary, terminal.—Stems numerous, prostrate: flowers large, with purplish-red petals. Perennial: flowers in May and June: grows in moist rocky places on high mountains: frequent. *Eng. Bot.* vol. i. pl. 9. *Eng. Fl.* vol. ii. p. 266. 643.

7. *S. Hirculus*. *Yellow Marsh Saxifrage*. Leaves lance-shaped, alternate, naked; calyx reflected, obtuse, fringed; capsule superior.—Stems simple, from four to eight inches high: flowers terminal, usually two or three, with deep yellow petals, dotted with red. Perennial: flowers in August: grows in bogs in the north of England and south of Scotland: very rare. *Eng. Bot.* vol. xv. pl. 1009. *Eng. Fl.* vol. ii. p. 267. 644.

8. *S. aizoides*. *Yellow Mountain Saxifrage*. Leaves alternate, linear, fringed; stem decumbent at the base; capsule half-superior.—Stems decumbent at the best, then erect, from four to eight

inches long, with a terminal panicle of yellow flowers, sprinkled with red dots. Perennial: flowers in July, August, and September: grows by rills in mountainous situations: common in Scotland. *Eng. Bot.* vol. i. pl. 39. *Eng. Fl.* vol. ii. p. 268. *Don in Lin. Tr.* vol. xiii. p. 375. 645.

\*\*\* *Stem leafy. Leaves lobed.*

9. *S. granulata*. *White Meadow Saxifrage*. Leaves kidney-shaped, lobed; stem panicle; root granulated; germen half-inferior.—Stem about a foot high: petals white, without spots. Perennial: flowers in May: grows in meadows, and pastures: not uncommon. *Eng. Bot.* vol. vii. pl. 500. *Eng. Fl.* vol. ii. p. 270. 646.

10. *S. cernua*. *Drooping Bulbous Saxifrage*. Leaves somewhat palmate, stalked; stem simple, one-flowered, with axillar bulbs; germen superior.—Roots scaly: stem from four to eight inches high: flower white, on a terminal downy stalk. Perennial: flowers in July: grows on dry rocks on the highest mountains of Scotland: rare. *Eng. Bot.* vol. x. pl. 664. *Eng. Fl.* vol. ii. p. 270. 647.

11. *S. rivuldris*. *Alpine Brook Saxifrage*. Leaves palmate, stalked, the uppermost spatulate; stem few-flowered; root fibrous; germen half-inferior.—Leaves with five or three lobes: stem about two inches high, with a few small white flowers. Annual: flowers in July and August: grows by rivulets on several of the higher mountains of Scotland, Ben Nevis, Ben Lawers, Loch-na-gar, &c. *Eng. Bot.* vol. xxxii. pl. 2275. *Eng. Fl.* vol. ii. p. 271. 648.

12. *S. tridactylites*. *Rue-leaved Saxifrage*. Leaves wedge-shaped, three or five-cleft, the uppermost undivided; stem panicle; stalks single-flowered, alternate; germen inferior.—Downy and glutinous, turning red after flowering: stem erect, three or four inches high: flowers small, white. Annual: flowers in April and May: grows on walls, roofs, and dry bare ground: frequent. *Eng. Bot.* vol. vii. pl. 501. *Eng. Fl.* vol. ii. p. 271. 649.

13. *S. caespitosa*. *Tufted Alpine Saxifrage*. Root-leaves crowded, three or five-cleft, obtuse, fringed, the lowermost undivided; stem erect, few-flowered; calyx obtuse; petals rounded, three-nerved; germen half-inferior.—This species varies greatly in luxuriance, the number of flowers, and the degree of hairiness: petals white, with green nerves. Perennial: flowers in May and June: grows on the highest mountains of Wales and Scotland. *Eng. Bot.* vol. xii. pl. 794. *Eng. Fl.* vol. ii. p. 274. 650.

14. *S. hypnoides*. *Mossy Saxifrage. Ladies' Cushion*. Root-leaves three or five-cleft, the others undivided or three-cleft, all bristle-pointed and fringed; segments of the calyx egg-shaped, pointed; petals inversely egg-shaped.—Stem four or five inches high, terminating in a corymbose panicle of from three to five flowers: petals white, triple-ribbed. Perennial: flowers in May and June: grows on rocky mountains in Scotland, the north of England, and Wales. *Eng. Bot.* vol. vii. pl. 454. *Eng. Fl.* vol. ii. p. 277. To this variable species are now generally referred nine varieties described as so many species in the former editions of the present work, in this respect following Sir J. E. Smith in his *Eng. Fl.*, and Mr. Don in *Lin. Trans.* vol. xiii., where they will be found described. Figures of all of them may be seen in *Eng. Bot.* 651.

15. *S. pedatifida*. *Web-foot-leaved Saxifrage*. Root-leaves kidney-



shaped, divided in a pedate manner into seven lobes; panicle cymose, many-flowered: calyx superior, with narrow lance-shaped segments.—Stems about six inches high, panicked at the top: flowers white, small, erect. Perennial: flowers in May: said to have been found on the mountains of Clova, in Angus-shire, by the late Mr. Don, but gathered by no one else. *Eng. Bot.* vol. xxxii. pl. 2278. *Eng. Fl.* vol. ii. p. 280. 652.

#### 7. SCLERANTHUS. KNAWEI.

Calyx inferior, of one leaf, tubular, with five shallow acute clefts, permanent, contracted at the neck. Corolla none. Filaments from five to ten, awl-shaped, erect; anthers roundish, two-lobed. Germen superior, roundish. Styles thread-shaped, spreading, as long as the stamens; stigmas simple, downy. Capsule egg-shaped, one-celled. Seeds two, convex on one side, flat on the other.—Named from *scleros*, hard, and *anthos*, a flower. 227.

1. *S. annuus*. *Annual KnaweI*. Calyx of the fruit with acute spreading segments; stems spreading.—Roots small, tapering: stems numerous, branched, and many-flowered above: leaves linear, acute, united at the base by a membranous fringed border: flowers small, green. Annual: flowers in July: grows in dry fields: common. *Eng. Bot.* vol. v. pl. 351. *Eng. Fl.* vol. ii. p. 282. 653.

2. *S. perennis*. *Perennial KnaweI*. Calyx of the fruit with obtuse converging segments; stems procumbent.—Root woody, branched: stems numerous, decumbent or prostrate, three or four inches long: leaves linear, tapering. Perennial: flowers in the autumnal months: grows in open dry fields. *Eng. Bot.* vol. v. pl. 352. *Eng. Fl.* vol. ii. p. 283. 654.

#### 8. SAPONARIA. SOAP-WORT.

Calyx inferior, of one leaf, tubular, with five teeth, permanent. Petals five, with narrow angular claws, as long as the calyx, the limb flat, dilated towards the end. Filaments awl-shaped, as long as the calyx; anthers oblong, obtuse. Germen nearly cylindrical. Styles two, erect, parallel, as long as the stamens; stigmas acute, downy. Capsule oblong, one-celled, concealed in the calyx. Seeds numerous, roundish.—Named from *sapo*, soap. 228.

1. *S. officinalis*. *Common Soap-wort*. Calyx cylindrical, leaves spear-shaped, inclining to elliptical.—A nearly smooth, somewhat succulent plant: stems about eighteen inches high, panicked in the upper part: flowers erect, flesh-coloured or white. The whole plant is bitter. When bruised and agitated in water it raises a lather like soap, which washes greasy spots out of clothes. Perennial: flowers in August and September: grows in meadows and in shady places, but is not indigenous. *Eng. Bot.* vol. xv. pl. 1060. *Eng. Fl.* vol. ii. p. 284. 655.

#### 9. DIANTHUS. PINK.

Calyx inferior, of one leaf, cylindrical, striated, permanent, with five teeth at the mouth, and two or more pairs of opposite imbricated scales at the base. Petals five, their claws as long

as the calyx, narrow and angular; the limbs flat, dilated towards the end, obtuse, variously notched. Filaments awl-shaped, as long as the calyx, spreading at the top; anthers oblong, compressed. Germen oval. Styles two, awl-shaped, longer than the stamens; stigmas revolute, tapering. Capsule cylindrical, one-celled, opening with four teeth. Seeds numerous, roundish, compressed.—Name *anthos*, flower, *Dios*, of Jupiter. 229.

1. *D. Arméria. Deptford Pink.* Flowers aggregate; scales of the calyx lance-shaped, downy, as long as the tube.—Stem about a foot high, corymbose above: flowers small, speckled pink and white. Annual: flowers in July and August: grows in pastures and hedges: rare. *Eng. Bot.* vol. v. pl. 317. *Eng. Fl.* vol. ii. p. 286. 656.

2. *D. prolifer. Proliferous Pink.* Flowers aggregate; scales of the calyx egg-shaped, blunt, longer than the tube.—Stem erect, simple, from three to twelve inches high: flowers red, scentless. Annual: flowers in July: grows in sandy pastures, in England: rare. Selsey Island, Sussex; near Norwich; in a marl-pit at Sandridge Hill, Hanley Castle, Worcestershire. *Eng. Bot.* vol. xiv. pl. 956. *Eng. Fl.* vol. ii. p. 286. 657.

3. *D. Caryophyllus. Clove Pink.* Flowers solitary; scales of the calyx almost rhomboidal, very short, petals irregularly toothed.—Stem panicled: leaves linear, channelled: flowers pale flesh-coloured. Perennial: flowers in June and July: naturalized on old walls, in various parts of England. *Eng. Bot.* vol. iii. pl. 214. *Eng. Fl.* vol. ii. p. 287. 658.

4. *D. deltoides. Maiden Pink.* Flowers solitary; scales of the calyx two, broadly lance-shaped, acute, with membranous margins; leaves bluish, rough on the margin; petals notched, smooth.—Stems numerous, decumbent, matted, when in flower ascending, six or eight inches long: flowers pale rose-colour, with a circle of deep-coloured dots at the mouth. Perennial: flowers from July to October: grows in dry hilly banks and pastures: frequent. *Eng. Bot.* vol. i. pl. 61. *Eng. Fl.* vol. ii. p. 288. 659.

5. *D. caesiuss. Mountain Pink.* Stems single-flowered; scales of the calyx short, roundish; leaves rough at the edges; petals irregularly toothed.—Stems from four to six inches high, four-cornered: flowers pale rose-coloured, fragrant. Perennial: flowers in July: grows on Cheddar Rocks, Somersetshire. *Eng. Bot.* vol. i. pl. 62. *Eng. Fl.* vol. ii. p. 288. 660.

## TRIGYNIA.

### 10. SILE'NE. CATCHFLY.

Calyx inferior, of one leaf, tubular, with five teeth, permanent. Petals five; claws narrow, as long as the calyx, bordered; limb flat, frequently cleft, either naked at the base, or furnished with two teeth. Filaments awl-shaped, five alternate ones attached to the petals, and later than the rest; anthers oblong. Germen cylindrical or egg-shaped. Styles three, longer than the stamens; stigmas oblong, oblique,

downy on the upper side. Capsule egg-shaped, covered by the calyx, imperfectly three-celled, opening at the top with six teeth. Seeds numerous, kidney-shaped.—Named from *sialon*, saliva. 230.

\* *Flowers lateral, solitary.*

1. *S. Anglica*. *English Catchfly*. Hairy and clammy; flowers lateral, alternate, erect; the lower capsules bent back.—Stem branched, spreading; leaves lance-shaped; flowers erect, with small, white, cleft petals. Annual: flowers in June and July: grows in cultivated fields. *Eng. Bot.* vol. xvii. pl. 1178. *Egg. Fl.* vol. ii. p. 291. 661.

2. *S. quinquevilnera*. *Variegated Catchfly*. Hairy; flowers lateral, alternate, erect; capsules erect.—Less hairy and less clammy than the preceding: petals not notched, their limb white, with a blood-red spot at the base. Annual: flowers in June and July: grows in sandy corn-fields, in England, but not wild: rare. *Eng. Bot.* vol. ii. pl. 86. *Eng. Fl.* vol. ii. p. 292. 662.

\*\* *Stem forked, with panicle branches.*

3. *S. inflata*. *Bladder Campion*. *White Bottle*. Flowers in panicles, drooping; petals cleft half-way down; calyx smooth, inflated, reticulated; stem erect; leaves egg-shaped, acute, glaucous.—Stem two or three feet high: calyx pale or purplish, beautifully reticulated with veins; petals white. Perennial: flowers in July: grows in fields and pastures, and among rubbish: common. The boiled leaves taste like peas. *Eng. Bot.* vol. iii. pl. 164: *Cucubalus Behen*. *Eng. Fl.* vol. ii. p. 292. 663.

4. *S. maritima*. *Sea Campion*. Flowers in panicles, or solitary; petals cleft, each with a cleft acute scale; calyx smooth, inflated, reticulated; stem recumbent; leaves lance-shaped.—Stems procumbent at the base, about a foot long; calyx purplish, beautifully reticulated; petals white. Perennial: flowers in July and August: grows on the sea-shore above water-mark, and by alpine torrents: common. *Eng. Bot.* vol. xiv. pl. 957. *Eng. Fl.* vol. ii. p. 293. 664.

\*\*\* *Stem and branches forked, leafy.*

5. *S. conica*. *Striated Corn Catchfly*. Stem forked; petals cleft; calyx when in fruit conical, with thirty furrows; leaves softly downy.—Stem erect, repeatedly forked, downy: flowers from the forks of the stem, stalked, erect, fragrant in the evening: petals small: the limb red, deeply cleft: scale deeply divided. Annual: flowers in July: grows in sandy fields in England: rare. Haddingtonshire, Scotland. *Eng. Bot.* vol. xiii. pl. 922. *Eng. Fl.* vol. ii. p. 294. 665.

6. *S. noctiflora*. *Night-flowering Catchfly*. Stem forked; petals cleft; calyx with ten hairy ribs; its teeth linear, almost as long as the tube.—Stem erect, round, spreading, from one to two feet high: flowers solitary, from the forks of the stem, sweet-scented during the night: petals with a deeply cleft, pale rose-coloured limb, and blunt cleft scale. Annual: flowers in July: grows in sandy fields in England: rare. Haddingtonshire, Scotland. *Eng. Bot.* vol. v. pl. 291. *Eng. Fl.* vol. ii. p. 295. 666.

\*\*\* *Stem panicled, imperfectly forked.*

7. *S. nitans*. *Nottingham Catchfly*. Panicle with drooping flowers pointing one way; petals deeply cleft, with linear segments and

an acute cleft scale. leaves lance-shaped, downy.—Stem about a foot and a half high, recumbent at the base, erect, simple, round, downy, the three upper joints beset with clammy hairs: flowers white, sweet-scented in the evening. Perennial: flowers in June and July: grows on rocks and walls, and in hilly pastures. *Eng. Bot.* vol. vii. pl. 465. *Eng. Fl.* vol. ii. p. 296. 667.

8. *S. Italica*. *Italian Catchfly*. Panicle nearly erect; petals deeply cleft, with broad segments and without a scale; leaves downy.—Whole plant downy, the panicles slightly clammy: flowers white. Perennial: flowers in June and July: found by Mr. Pecte on Dover Cliffs. *Eng. Bot. Suppl.* pl. 2748. *Brit. Fl.* 4th ed. p. 179. 668.

9. *S. Otides*. *Spanish Catchfly*. Panicle with somewhat whorled, erect branches; flowers dicecious; petals linear, undivided, destitute of scale; leaves spatulate, roughish.—Stem erect, from one to two feet high, round, clammy about the middle of the upper joint below the panicle: flowers pale-green. Perennial: flowers in July and August: grows in dry sandy fields, in England: rare. *Eng. Bot.* vol. ii. pl. 85. *Cucubalus Otites*. *Eng. Fl.* vol. ii. p. 298. 669.

\*\*\*\*\* *Stem single-flowered.*

10. *S. acutis*. *Moss Campion*. Stems tufted; leaves linear, acute, fringed at the base; stalks terminal, solitary, single-flowered; petals slightly notched, crowned.—Grows in dense tufts and patches towards the summits of the Highland mountains, as well as on those of Wale: flowers rose-coloured. Perennial: flowers in June and July. *Eng. Bot.* vol. xvi. pl. 1081. *Eng. Fl.* vol. ii. p. 299. 670.

11. STELLARIA. STITCHWORT.

Calyx inferior, of five broadly lance-shaped, acute, spreading, permanent leaves. Petals five, deeply cleft, spreading, oblong, withering. Filaments thread-shaped, shorter than the petals, the five alternate ones shorter; anthers roundish. Five notched glandular nectaries at the base of the stamens. Germen roundish. Styles three, hair-like, spreading; stigmas obtuse, downy. Capsule egg-shaped, one-celled, six-valved, covered by the calyx. Seeds numerous, roundish, compressed.—Name from *stella*, a star. 231.

1. *S. nemorum*. *Wood Stitchwort*. Lower leaves heart-shaped, stalked; upper egg-shaped, sessile; panicle repeatedly forked.—Stems round, lax, very brittle, about a foot high: leaves pale-green, tender: flowers white. Perennial: flowers in May and June: grows in moist woods, in the north of England and in Scotland: frequent. *Eng. Bot.* vol. ii. pl. 92. *Eng. Fl.* vol. ii. p. 300. 671.

2. *S. média*. *Common Chickweed*, or *Stitchwort*. Leaves egg-shaped; stems procumbent, with a hairy alternating line on one side; stamens varying from three to ten.—Stem much branched, spreading, brittle: flowers small, with white petals: stamens three, five, or ten. Poultry and small birds eat the seeds and even the whole plant. Annual: flowers during the whole year: grows everywhere in waste and cultivated ground. *Eng. Bot.* vol. viii. pl. 537. *Eng. Fl.* vol. ii. p. 301. 672.

3. *S. holostea*. *Greater Stitchwort*. Leaves lance-shaped, bristle

serrate; petals inversely heart-shaped; calyx ribless, much shorter than the petals.—Stems from one to two feet high, very slender and decumbent at the base, square, erect, panicle at the top: flowers large, pure white. Perennial: flowers in May and June: grows in woods and hedges: common. *Eng. Bot.* vol. viii. pl. 511. *Eng. Fl.* vol. ii. p. 301. 673.

4. *S. graminea*. *Lesser Stitchwort*. Leaves between linear and lance-shaped, not serrate; panicle terminal, spreading; calyx three-ribbed, nearly as long as the petals.—Stems very weak and brittle, supporting themselves by the surrounding plants, from one to three feet long: flowers with white petals. Perennial: flowers in May, June, and July: grows in grassy or bushy places: common. *Eng. Bot.* vol. xii. pl. 803. *Eng. Fl.* vol. ii. p. 302. 674.

5. *S. glauca*. *Glaucous Marsh Stitchwort*. Leaves between linear and lance-shaped, not serrate, glaucous; flowers upon long solitary axillar stalks; calyx three-ribbed, half as long as the petals.—Intermediate between *S. holostea* and *S. graminea*, but easily distinguished from either: stem about a foot high. Perennial: grows in marshy places: flowers in June and July. *Eng. Bot.* vol. xii. pl. 825. *Eng. Fl.* vol. ii. p. 303. 675.

6. *S. uliginosa*. *Bog Stitchwort*. Leaves between lance-shaped and elliptical, entire, with the tip callous; flowers irregularly panicle, lateral or terminal; petals shorter than the calyx.—Smooth, pale, and somewhat glaucous: stems weak, square, about a foot high: flowers small, white. Annual: flowers in June: grows in rivulets, ditches, and boggy places: common. *Eng. Bot.* vol. xv. pl. 1074. *Eng. Fl.* vol. ii. p. 303. 676.

7. *S. scapigera*. *Many-stalked Stitchwort*. Leaves between lance-shaped and linear, rough on the margin; stem shorter than the flower-stalks; leaves of the calyx three-ribbed, as long as the petals.—Stem erect, very short, angular: leaves crowded: flowers small, white. Perennial: flowers in June: said to have been found on the higher mountains of Scotland, by the late Mr. Don. No other botanist has found it in Britain. *Eng. Bot.* vol. xviii. pl. 1269. *Eng. Fl.* vol. ii. p. 304. 677.

8. *S. cerastoides*. *Alpine Stitchwort*. Leaves between oblong and elliptical, bluish, smooth; stems two-flowered, with a lateral hairy line; flower-stalks downy; leaves of the calyx with a single downy rib.—Stems spreading, three or four inches long: flowers erect, terminal: petals nearly twice the length of the calyx, cleft nearly half-way down. Perennial: flowers in June: grows on Ben Nevis, Ben-na-muic-dui, Loch-na-gar, and other high mountains in Scotland. *Eng. Bot.* vol. xiii. pl. 911. *Eng. Fl.* vol. ii. p. 305. 678.

## 12. ARENARIA. SANDWORT.

Calyx inferior, of five oblong, pointed, permanent leaves. Petals five, egg-shaped, or lance-shaped, undivided, withering. Nectaries five or ten glands at the base of the stamens. Filaments awl-shaped, five rather shorter; anthers roundish. Germen egg-shaped, superior. Styles three, short, spreading; stigmas downy. Capsule egg-shaped, covered by the calyx and corolla, one-celled, three-valved. Seeds numerous, kidney-shaped.—Named from *arena*, sand. 232.

\* *No stipules.*

1. *A. peploides*. *Sea Sandwort*. Leaves egg-shaped, acute, fleshy; leaves of the calyx obtuse, ribless.—Root extensively creeping. The whole plant smooth and succulent, with inconspicuous white flowers. Perennial: flowers in June and July: grows abundantly on the sea-coast in sandy and gravelly places. *Eng. Bot.* vol. iii. pl. 189. *Eng. Fl.* vol. ii. p. 306. 679.

2. *A. trinervis*. *Plantain-leaved Sandwort*. Leaves egg-shaped, acute, three-ribbed, stalked; leaves of the calyx obscurely three-ribbed, with a rough keel.—Root small, tapering: stems weak branching, about a foot high: leaves fringed, pale: flowers small white. Annual: flowers in May and June: grows in woods and moist hedges: common. *Eng. Bot.* vol. xxi. pl. 1483. *Eng. Fl.* vol. ii. p. 307. 680.

3. *A. serpyllifolia*. *Thyme-leaved Sandwort*. Leaves egg-shaped, nearly sessile, rough; leaves of the calyx hairy, the three outer five-ribbed.—Stems spreading, forked in the upper part, round, rough with short hairs: flowers small, white, solitary, from the forks of the stem. Annual: flowers in July: grows on walls and in sandy and waste places: common. *Eng. Bot.* vol. xiii. pl. 923. *Eng. Fl.* vol. ii. p. 307. 681.

4. *A. ciliata*. *Fringed Sandwort*. Leaves spatulate, somewhat rough, fringed; stems procumbent, much branched, downy; calyx half the length of the corolla, lance-shaped, acute, ribbed.—Perennial: flowers in August and September: grows on mountains in Ireland: rare. Found by Mr. Mackay in Sligo. *Eng. Bot.* pl. 1745. *Brit. Fl.* 4th ed. p. 182. 682.

5. *A. Norvégica*. *Norwegian Sandwort*. Leaves spatulate, fleshy, glabrous; stems procumbent, much branched, fleshy, glabrous; calyx half the length of the corolla, egg-shaped, acute, ribbed.—Perennial: flowers in July: discovered by Mr. Thomas Edmonstone, Jun., a young botanist then only eleven years of age. *Brit. Fl.* 4th ed. p. 182. 683.

6. *A. tenuifolia*. *Fine-leaved Sandwort*. Leaves awl-shaped, pointed; stem paniced; capsules erect; petals lance-shaped, shorter than the calyx.—Stems as in the last, about eight inches high: flowers very small, white. Annual: flowers in June: grows in dry fields and on walls: not common. *Eng. Bot.* vol. iv. pl. 219. *Eng. Fl.* vol. ii. p. 308. 684.

7. *A. verna*. *Vernal Sandwort*. Leaves awl-shaped, bluntish; stem paniced; leaves of the calyx three-ribbed, longer than the petals.—Stems numerous, ascending, three or four inches long: flowers white. Perennial: flowers in the summer months: grows in hilly pastures: not common. *Eng. Bot.* vol. viii. pl. 512. *Eng. Fl.* vol. ii. p. 309. 685.

8. *A. rubella*. *Little Red Sandwort*. Leaves awl-shaped, bluntish; stems one-flowered; leaves of the calyx with three equal ribs, longer than the petals.—Stems very numerous, two or three inches high: petals reddish. Perennial: flowers in June: grows on the highest mountains in the north of Scotland: very rare. *Eng. Fl.* vol. ii. p. 310. 686.

9. *A. fastigiata*. *Level-topped Sandwort*. Leaves awl-shaped; stem erect, straight, corymbose; petals very short; lateral ribs of the calyx dilated.—Stems four or five inches high: flowers in crowded panicles: petals white, much shorter than the calyx.

Annual: flowers in June: found on rocks on the mountains of Angus-shire and Fifeshire, by Mr. G. Don. *Eng. Bot.* vol. xxv. pl. 1744. *Eng. Fl.* vol. ii. p. 310. 687.

\*\* *Stipules membranous.*

10. *A. rubra*. *Purple Sandwort*. Leaves linear, bristle-pointed; stipules membranous, sheathing; seeds compressed, angular, roughish.—Stems numerous, prostrate, branched, hairy towards the extremity: leaves opposite: flowers from the forks of the stem: calyx clammy, ribless, longer than the pale-purple petals. Annual: flowers in July and August: grows in sandy fields and waste places: not uncommon. *Eng. Bot.* vol. xii. pl. 852. *Eng. Fl.* vol. ii. p. 311. 688.

11. *A. marina*. *Sea Sandwort*. Leaves semi-cylindrical, fleshy, pointless; stipules membranous, sheathing; seeds compressed, bordered, smoothish.—Stems numerous, decumbent at the base: flowers rather large, with pale-purple petals. Annual: flowers in June and July: grows on the sea-shore: frequent. Probably a variety of the preceding. *Eng. Bot.* vol. xiv. pl. 958. *Eng. Fl.* vol. ii. p. 312. 689.

### 13. CHERLERIA. CHERLERIA.

Calyx inferior, of five lance-shaped, equal, permanent leaves. Petals none. Nectaries five minute glands, at the base of five of the stamens. Filaments awl-shaped; anthers roundish. Germen oval, superior. Styles three, short; stigmas obtuse. Capsule egg-shaped, one-celled, three-valved. Seeds numerous, angular.—Named after *John Henry Cherler*, a botanist. 233.

1. *C. sedoides*. Roots crowded; stems tufted; leaves oblong, keeled, minutely fringed, pale-green; flowers yellowish-green.—Roots densely crowded, bearing close tufts of stems, which, with the slender leaves, form a thick mass of short verdure. Perennial: flowers in July: grows near the summits of the higher mountains of Scotland. *Eng. Bot.* vol. xvii. pl. 1212. *Eng. Fl.* vol. ii. p. 313. 690.

## PENTAGYNIA.

### 14. COTYLEDON. NAVELWORT.

Calyx inferior, of one leaf, with five acute segments. Corolla of one petal, bell-shaped, five-cleft. Nectaries a concave scale at the base of each germen. Filaments awl-shaped, straight, nearly as long as the corolla; anthers roundish, two-lobed. Germens five, oblong, each terminating in an awl-shaped style, which is shorter than the corolla; stigmas simple. Capsules five, oblong, pointed, one-valved. Seeds numerous, small.—Named from *cotyle*, a cup. 234.

1. *C. Umbilicus*. *Common Navelwort*. Leaves peltate, crenate; flowers clustered, drooping; bractees entire; root tuberous.—Stem about six inches high, purplish: flowers pale-yellow. Perennial: flowers in June and July: grows on rocks and old walls: rare. *Eng. Bot.* vol. v. pl. 325. *Eng. Fl.* vol. ii. p. 314. 691.

## 15. SEDUM. STONECROP.

Calyx inferior, of one leaf, deeply divided into five acute, permanent segments. Petals five, lance-shaped, spreading. Nectaries a minute notched scale at the base of each germen. Filaments awl-shaped, spreading, as long as the petals; anthers roundish. Germens five, oblong, each tapering into a short style. Stigmas bluntish. Capsules five, compressed, pointed. Seeds numerous, minute.—Named from *sedo*, to sit, the plant sitting as it were on the rocks. 235.

\* *Leaves flat.*

1. *S. Telephium*. *Orpine*, or *Live-long*. Leaves egg-shaped, flattish, serrate; corymbs leafy; stem erect.—Stems two feet high: leaves fleshy: flowers deep-red. Perennial: flowers in August: grows in the borders of fields, in hedges, and among rubbish: frequent. *Eng. Bot.* vol. xix. pl. 1319. *Eng. Fl.* vol. ii. p. 316. 692.

\*\* *Leaves rounded, attached by the base.*

2. *S. dasyphyllum*. *Thick-leaved White Stonecrop*. Leaves egg-shaped, obtuse, fleshy; stems weak; panicles clammy.—Root fibrous, small: stems three or four inches high, rooting at the lower part: lower leaves crowded, opposite; upper scattered: petals white, with a red line in the middle. Perennial: flowers in June: grows on walls and rocks: not common. *Eng. Bot.* vol. x. pl. 656. *Eng. Fl.* vol. ii. p. 317. 693.

3. *S. album*. *White Stonecrop*. Leaves oblong, cylindrical, obtuse, spreading, smooth; panicle much branched, cymose.—Root fibrous, creeping: stems erect, four or five inches high, round, purplish: flowers numerous, with white petals. Perennial: flowers in July: grows on rocks, walls and roofs: not common. *Eng. Bot.* vol. xxii. pl. 1578. *Eng. Fl.* vol. ii. p. 320. 694.

4. *S. villosum*. *Hairy Stonecrop*. Leaves oblong, flattened, slightly hairy, as well as the flower stalks; stem erect.—Root fibrous, small: stem from three to six inches high, spotted with red: leaves scattered: flowers rose-coloured, or white, with a red central line. Perennial: flowers in June and July: grows in moist pastures in Scotland and the north of England: frequent. *Eng. Bot.* vol. vi. pl. 394. *Eng. Fl.* vol. ii. p. 319. 695.

\*\*\* *Leaves rounded; spurred at the base.*

5. *S. Anglicum*. *White English Stonecrop*. Leaves egg-shaped, thick, alternate; cyme of two branches.—Root fibrous: stems from two to four inches high: flowers white, spotted with red. Annual: flowers in July: grows in dry sterile places and on rocks: common in Scotland and Ireland. *Eng. Bot.* vol. iii. pl. 171. *Eng. Fl.* vol. ii. p. 317. 696.

6. *S. acre*. *Biting Stonecrop*. *Wall Pepper*. Leaves egg-shaped, thick, tumid, alternate; cyme of the branches leafy.—Root fibrous: stems much branched, two or three inches high: flowers greenish-yellow. The whole plant is intensely acrid, but the acrimony is not perceived until it has been chewed for a little while: it is said to be useful in scrofula. Perennial: flowers in June: grows on rocks and walls: common. *Eng. Bot.* vol. xii. pl. 839. *Eng. Fl.* vol. ii. p. 318. 697.

7. *S. sexangulare*. *Insipid Yellow Stonecrop*. Leaves nearly cylindrical, obtuse, fleshy in six or seven rows; cyme of three



branches.—Root fibrous: stems branched, from two to five inches high: flowers yellow: larger than the last, and insipid. Perennial: flowers in July: grows on walls in England: rare. *Eng. Bot.* vol. xxviii. pl. 1946. *Eng. Fl.* vol. ii. p. 318. 698.

8. *S. reflexum*. *Crooked Yellow Stonecrop*. Leaves awl-shaped, scattered; the lower recurved; flowers cymose, segments of the calyx egg-shaped.—Root fibrous: stems rooting at the lower part: leaves tapering to a bristly point: flowers bright-yellow, numerous. Perennial: flowers in July: grows on walls and roofs: common. *Eng. Bot.* vol. xxii. pl. 1578. *Eng. Fl.* vol. ii. p. 320. 699.

9. *S. glaucum*. *Glaucous Yellow Stonecrop*. Leaves awl-shaped, scattered, glaucous, those of the branches thread-shaped; flowers cymose; segments of the calyx lance-shaped.—Differs from the last in having more slender leaves and a more glaucous colour. Perennial: flowers in July and August: grows on walls and sandy ground: rare. *Eng. Bot.* vol. xxxv. pl. 2177. *Eng. Fl.* vol. ii. p. 321. 700.

10. *S. rupestre*. *Bristol Stonecrop*. Leaves glaucous, those of the branches awl-shaped, erect, in five rows: flowers cymose; segments of the calyx elliptical.—Flowers yellow. Perennial: flowers in July: found on St. Vincent's Rocks at Bristol, and a few other places in England. *Eng. Bot.* vol. iii. pl. 170. *Eng. Fl.* vol. ii. p. 322. 701.

11. *S. Forsterianum*. *Welsh Rock Stonecrop*. Leaves of the branches semi-cylindrical, bluntish, pointed in many rows; flowers cymose; segments of the calyx elliptical, obtuse.—Flowers yellow. Perennial: flowers in July: grows on rocks in Wales: rare. *Eng. Bot.* vol. xxvi. pl. 1802. *Eng. Fl.* vol. ii. p. 322. 702.

#### 16. OXALIS. WOOD-SORREL.

Calyx inferior, deeply divided into five acute, permanent segments. Petals five, much longer than the calyx, obtuse, connected laterally by their claws. Filaments hair-like, erect, the five outer shorter; anthers roundish. Germen superior, oblong, five-cornered. Styles five, thread-shaped; stigmas obtuse, downy. Capsule membranous, five-cornered, five-celled. Seeds roundish, polished.—Named from *oxys*, acid. 236.

1. *O. Acetosella*. *Common Wood-Sorrel*. Leaves all radical, ternate, inversely heart-shaped, hairy; scape single-flowered; root scaly.—Leaflets bright-green, often purplish beneath: bracteas two, opposite: petals white, streaked with purplish veins: the whole plant is intensely acid. Perennial: flowers in April and May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 762. *Eng. Fl.* vol. ii. p. 323. 703.

2. *O. corniculata*. *Yellow Procumbent Wood-Sorrel*. Stem branched, procumbent; flowers in small umbels; stipules united to the base of the flower-stalks.—Root fibrous: stem spreading on the ground, often rooting: petals yellow, strongly combined. Annual: flowers from May to October: grows in shady waste ground in the south of England: rare. *Eng. Bot.* vol. xxiv. pl. 1726. *Eng. Fl.* vol. ii. p. 325. 704.

#### 17. AGROSTEMMA. COCKLE.

Calyx inferior, of one leaf, tubular, leathery, strongly ribbed, five-toothed, permanent. Petals five; the claws as long as the

tube of the calyx, the border spreading. Filaments awl-shaped, five shorter; anthers oblong, notched. Germen superior, egg-shaped. Styles thread-like, erect, as long as the stamens; stigmas slender, downy. Capsule egg-shaped, one-celled, five-valved. Seeds numerous, kidney-shaped, granulated, stalked.—Name *agrou stemma*, crown of the field. 237.

1. *A. Githago*. *Corn Cockle*. Teeth of the calyx rising above the corolla; petals undivided, without teeth.—Stem from two to three feet high, covered with white hairs: leaves sessile, narrow lance-shaped: flowers large, with purple petals. Annual: flowers in June and July: grows among wheat: a troublesome weed. *Eng. Bot.* vol. xi. pl. 741. *Eng. Fl.* vol. ii. p. 325. 705.

### 18. LYCHNIS. LYCHNIS.

Calyx inferior, of one leaf, oblong, membranous, ribbed, five-toothed, permanent. Petals five; the claws as long as the tube of the calyx, the border spreading. Filaments longer than the calyx, five of them later than the rest; anthers oblong. Germen superior, nearly egg-shaped. Styles five, sometimes three or four, awl-shaped, longer than the stamens; stigmas downy, reflected. Capsule egg-shaped, one-, three-, or five-celled. Seeds numerous, roundish, roughish.—Name from *lychnos*, a lamp. 238.

1. *L. Flos-Cuculi*. *Ragged Robin*. *Meadow Lychnis*. Petals divided into four lineal segments; capsule nearly globular, one-celled; stem rough with deflected bristles.—Stem erect, from one to two feet high, furrowed, the upper part clammy: leaves lance-shaped: panicle terminal, forked, clammy: flowers rose-coloured: calyx purplish-red, the ribs darker. Perennial: flowers in June: grows in moist meadows: common. *Eng. Bot.* vol. viii. pl. 573. *Eng. Fl.* vol. ii. p. 326. 706.

2. *L. Viscaria*. *Red German Catch-fly*. *Rock Lychnis*. Petals slightly cleft; capsule five-celled, stalked; leaves fringed at the base.—Stems a foot high, round, smooth, clammy on the upper part: leaves narrow lance-shaped, with a slight woolly fringe at the base: petals rose-coloured, veined. Perennial: flowers in May and June: grows in rocky places: not frequent. *Eng. Bot.* vol. xi. pl. 788. *Eng. Fl.* vol. ii. p. 327. 707.

3. *L. alpina*. *Red Alpine Campion*. Flowers densely corymbose; capsule five-celled, stalked; leaves narrow lance-shaped, naked at the base.—Stem nearly a foot high, not clammy: flowers rose-coloured: the petals cleft, with two small protuberances at the base of the limb. Perennial: flowers in June and July: grows on rocks near the summits of the Clova mountains. *Eng. Bot.* vol. xxxii. pl. 2254. *Eng. Fl.* vol. ii. p. 328. 708.

4. *L. sylvestris*. *Red Campion*. *Wood Lychnis*. Flowers diocious; petals cleft, crowned with four teeth: capsule one-celled, roundish: leaves egg-shaped, acute.—Stem from one to two feet high, slightly clammy: panicle terminal, many-flowered: petals thin, bright rose-coloured. Perennial: flowers in May and June: grows in woods, hedges, and shady waste places: common. *Eng. Bot.* vol. xxii. pl. 1579. *L. dioica*, var. *α*. *Eng. Fl.* vol. ii. p. 328. 709.

5. *L. vespertina*. *White Campion*. *Corn Lychnis*. Flowers dioecious; petals cleft, crowned with four teeth; capsule one-celled, conical; leaves between oblong and lance-shaped.—Stem from eighteen inches to three feet high: panicle terminal, many-flowered: petals somewhat leathery, white. The flowers emit a pleasant odour in the evening. This and the preceding are considered by most botanists as forming only one species. Perennial: flowers from June to September: grows in corn-fields and waste places: not common. *Eng. Bot.* vol. xxii. pl. 1583. *L. dioica*, var.  $\beta$ . *Eng. Fl.* vol. ii. p. 328. 710.

#### 19. CERA/STIUM. MOUSE-EAR CHICK-WEED.

Calyx inferior, of five egg-shaped, acute, permanent leaves, membranous at the edges. Petals five, divided, obtuse, about the length of the calyx. Filaments thread-like, generally ten, sometimes five or four; alternate one shorter; anthers roundish, two-lobed. Germen egg-shaped, superior, sessile. Styles five, rarely four only, short; stigma bluntish, downy. Capsule thin, egg-shaped or cylindrical, one-celled. Seeds numerous, roundish, rough.—Name from *ceras*, a horn, on account of the curved capsules of some species. 239.

1. *C. vulgatum*. *Broad-leaved Mouse-ear Chick-weed*. Leaves egg-shaped, hairy; petals as long as the calyx; flowers longer than their stalks.—Root fibrous, small: stems numerous, from four to six inches long: leaves and stems hairy and pale-green: capsule twice as long as the calyx, cylindrical. Annual: flowers in the summer months: grows in fields and waste ground: common. *Eng. Bot.* vol. xi. pl. 789. *Eng. Fl.* vol. ii. p. 330. 711.

2. *C. viscosum*. *Narrow-leaved Mouse-ear Chick-weed*. Leaves between oblong and lance-shaped, hairy; flowers shorter than their stalks.—Roots fibrous, small: stems numerous, from four to eight inches long: leaves and stems hairy, dark-green, and clammy. Perennial: flowers during the summer months: grows in fields and waste grounds: common. *Eng. Bot.* vol. xi. pl. 790. *Eng. Fl.* vol. ii. p. 331. 712.

3. *C. semidécaudrum*. *Small Mouse-ear Chick-weed*. Leaves egg-shaped, inclining to oblong; petals slightly cleft; stamens five.—Stem generally branched, spreading at the base, three or four inches high: leaves and stems hairy, very clammy, and generally covered with particles of sand and dust. Annual: flowers in April and May: grows in sandy ground, and on walls: common. *Eng. Bot.* vol. xxiii. pl. 1630. *Eng. Fl.* vol. ii. p. 331. 713.

4. *C. tetrandrum*. *Tetrandrous Mouse-ear Chick-weed*. Leaves broadly elliptical; petals four, inversely heart-shaped, shorter than the four-leaved calyx; stamens four.—Stems procumbent, from two to five inches long, forked: flower-stalks nearly thrice the length of the calyx: the whole plant hairy and somewhat clammy. Annual: flowers in May and June: grows in sandy pastures and waste grounds, and on walls: common. *Eng. Bot.* vol. iii. pl. 166: *Sagina cerastoides*. *Eng. Fl.* vol. ii. p. 332. 714.

5. *C. arvense*. *Field Mouse-ear Chick-weed*. Leaves narrow lance-shaped, fringed at the base; petals twice the length of the calyx.—

Roots creeping: stems numerous, covered with fine deflected hairs, from four inches to a foot high: leaves and stem hairy: panicles few-flowered: petals large, white. Perennial: flowers in the summer months: grows in fields and dry gravelly pastures. *Eng. Bot.* vol. ii. pl. 93. *Eng. Fl.* vol. ii. p. 333. 715.

6 *C. alpinum*. *Alpine Mouse-ear Chick-weed*. Leaves elliptical, covered with long silky hairs, or nearly smooth; panicle few-flowered; capsule oblong, recurved.—Root creeping: stems three or four inches high, generally hairy: petals inversely heart-shaped, much longer than the calyx. Perennial: flowers in June and July: grows on the higher mountains of Scotland and Wales. *Eng. Bot.* vol. vii. pl. 472. *Eng. Fl.* vol. ii. p. 334. 716.

7 *C. latifolium*. *Broad-leaved Alpine Mouse-ear Chick-weed*. Leaves between egg-shaped and elliptical, rough, with short bristly hairs; flowers terminal, generally solitary; capsule egg-shaped at the base.—Stems three or four inches high, and, together with the leaves, covered with short, stiff hairs: capsule straight: petals inversely heart-shaped, much longer than the calyx. Perennial: flowers in June and July: grows on the higher mountains of Scotland and Wales. *Eng. Bot.* vol. vii. pl. 473. *Eng. Fl.* vol. ii. p. 234. 717.

8 *C. aquaticum*. *Water Mouse-ear Chick-weed*. Leaves heart-shaped, sessile; flowers solitary; capsules drooping; petals deeply divided.—Root creeping: stems weak, two feet long, branched, covered, as well as the leaves, with long hairs, and clammy at the upper part: petals about the same length as the calyx, white. Perennial: flowers in July: grows by the sides of rivers and ditches: not common. *Eng. Bot.* vol. viii. pl. 538. *Eng. Fl.* vol. ii. p. 335. 718.

## 20. SPERGULA. SPURREY.

Calyx inferior, of five egg-shaped, obtuse, permanent leaves, membranous at the edges. Petals five, egg-shaped, larger than the leaves of the calyx, undivided. Filaments ten, sometimes five, awl-shaped, shorter than the corolla; anthers roundish, two-lobed. Germen superior, egg-shaped. Styles short, slender, spreading; stigmas downy. Capsule egg-shaped, membranous, one-celled, five-valved. Seeds roundish, compressed.—Name from *spargo*, to scatter, the seeds being widely spread when the capsule bursts. 240.

1 *S. arvensis*. *Corn Spurrey*. Leaves in whorls; stalks of the fruit reflected.—Root small, tapering: stem from six inches to a foot high, branched, swelling at the joints, hairy and clammy: leaves linear: stipules in pairs under each whorl: flowers in terminal panicles: petals white: seeds with a membranous border. Annual: flowers in June and July: grows in corn-fields: abundant. *Eng. Bot.* vol. xxii. pl. 1536. *Eng. Fl.* vol. ii. p. 337. 719.

2 *S. nodosa*. *Knotted Spurrey*. Leaves opposite, awl-shaped, smooth, united at the base, the upper ones clustered; petals much longer than the calyx.—The whole plant smooth: stems decumbent or spreading, from three to six inches long, jointed: flowers large, white. Perennial: flowers in July and August: grows in wet places: frequent. *Eng. Bot.* vol. x. pl. 694. *Eng. Fl.* vol. ii. p. 338. 720.

3. *S. saginoides*. *Smooth Awl-shaped Spurrey*. Leaves awl-shaped, awnless, smooth; flower-stalks solitary, smooth, much longer than the leaves.—Root fibrous: the whole plant smooth: stems decumbent at the base, jointed: leaves united at the base: flowers white: seeds not bordered. Perennial: flowers in June: grows on the higher mountains in Scotland: frequent. *Eng. Bot.* vol. xxx. pl. 2105. *Eng. Fl.* vol. ii. p. 339. 721.

4. *S. subulda*. *Fringed Awl-shaped Spurrey*. Leaves opposite, awl-shaped, awned, fringed; flower-stalks solitary, much longer than the leaves, slightly hairy.—Leaves terminated by a long bristle: seeds encircled by a black line. Perennial: flowers in July and August: grows on sandy heaths: frequent. Perhaps a variety of the preceding. *Eng. Bot.* vol. xvi. pl. 1082. *Eng. Fl.* vol. ii. p. 339. 722.

## CLASS XI. DODECANDRIA.

### *Plants bearing Flowers with Twelve Stamens.*

#### Order I. MONOGYNIA. *One Pistil.*

1. A'SARUM. *Corolla* none. *Calyx* three-cleft, superior. *Capsules* six-celled.
2. LY'THRUM. *Petals* six. *Calyx* twelve-cleft, inferior.

#### Order II. DIGYNIA. *Two Pistils.*

3. AGRIMON'IA. *Petals* five. *Calyx* five-cleft. *Seeds* in the bottom of the hardened calyx.

#### Order III. TRIGYNIA. *Three Pistils.*

4. RE'SEDA. *Petals* in many segments. *Capsule* one-celled, gaping.

#### Order IV. TETRAGYNIA. *Four Pistils.*

(*Tormentilla officinalis*. Cl. XII.)

#### Order V. DODECAGYNIA. *Twelve Pistils.*

5. SEMPERVIVUM. *Petals* twelve. *Calyx* with twelve divisions. *Capsules* twelve.

## DODECANDRIA.—MONOGYNIA.

### 1. A'SARUM. ASARABACCA.

*Calyx* superior, of one leaf, bell-shaped, leathery, coloured, permanent, in three deep segments. *Corolla* none. *Filaments* awl-shaped, half the length of the calyx; anthers adnate, of two round, separated cells. *Germen* inferior, turbinate. *Style* thick, furrowed, nearly as long as the stamens; stigma six-cleft, with recurved segments. *Capsule* leathery, six-celled, not bursting. *Seeds* several in each cell, inversely egg-shaped.

—Named from *a*, not, and *seira*, a band, because rejected from the garlands of the ancients. 241.

1. *A. Europeum*. *Common Asarabacca*. Leaves two on each stem, kidney-shaped, obtuse.—Roots creeping: stems very short, simple, round, each bearing two leaves, and a single flower, of a greenish-brown colour: filaments extending beyond the anthers. The powdered root acts as an emetic; the powder of the leaves occasions a discharge from the nostrils, without much sneezing, and forms the base of cephalic snuffs. Perennial: flowers in May: grows in mountainous woods in the north of England, but is not a native plant. *Eng. Bot.* vol. xvi. pl. 1083. *Eng. Fl.* vol. ii. p. 342. 723.

## 2. LYTHRUM. PURPLE LOOSE-STRIFE.

Calyx inferior, of one leaf, cylindrical, with twelve marginal divisions, alternately smaller and larger. Petals six, oblong, equal, with short claws inserted into the calyx. Filaments thread-like, shorter than the corolla, six alternate ones shorter; anthers roundish, incumbent. Germen superior, oblong. Style thread-like, as long as the stamens, a little curved; stigma knobbed. Capsule oblong, membranous, two-celled, pointed, inclosed in the tube of the calyx. Seeds numerous, oblong, minute.—Name *lythron*, blood, from the colour of the flowers. 242.

1. *L. Salictria*. *Spiked Purple Loose-stripe*. Leaves opposite, lance-shaped, heart-shaped at the base; flowers in whorled leafy spikes.—Stem erect, square, from two to four feet high: flowers purplish-red, forming a very beautiful showy spike: the whole plant is astringent. Perennial: flowers in July and August: grows in watery places: frequent. *Eng. Bot.* vol. xv. pl. 1061. *Eng. Fl.* vol. ii. p. 343. 724.

2. *L. hyssopifolium*. *Hyssop-leaved Purple Loose-stripe*. *Grass-poly*. Leaves alternate, narrow lance-shaped; flowers axillar, solitary; stamens six.—Stems decumbent, one of them erect: flowers small, pale-purple. Annual: flowers in August: grows in watery places in England: not common. *Eng. Bot.* vol. v. pl. 292. *Eng. Fl.* vol. ii. p. 344. 725.

## DIGYNIA.

### 3. AGRIMONIA. AGRIMONY.

Calyx inferior, of one leaf, tubular, permanent, with five small marginal segments. Petals five, flat, notched. Filaments hair-like, shorter than the corolla, varying in number; anthers small, two-lobed, compressed. Germens egg-shaped, compressed in the bottom of the calyx. Styles as long as the stamens, lateral; stigma obtuse, undivided. Seeds generally two, egg-shaped, compressed, pointed, smooth, inclosed in the hardened tube of the calyx.—Name corrupted from *Argemone*. 243.

1. *A. Eupatoria*. *Common Agrimony*. Stem-leaves pinnate, with oblong leaflets, the terminal one stalked; calyx bristly; spikes elongated.—Root tapering: stems from one to two feet high,

generally simple : flowers very numerous, yellow, in a close tapering spike, with divided bractæas. Perennial : flowers in June and July : grows by road-sides, and in hedges, and the margin of fields : common. This plant is slightly bitter, aromatic, and astringent, and was formerly in great repute for its medicinal properties. *Eng. Bot.* vol. xix. pl. 1335. *Eng. Fl.* vol. ii. p. 346. 726.

## TRIGYNIA.

### 4. RE'SEDA. YELLOW WOOD. •

Calyx inferior, of one leaf, deeply divided into several narrow, irregular, permanent segments. Petals three, four, five or six, unequal, deciduous, variously jagged. Nectary a flat, erect, permanent coloured gland, between the uppermost petal and the stamens. Filaments variable in number, hair-like, drooping, short ; anthers oblong, erect. Germen superior, angular. Styles terminal, short ; stigmas obtuse. Capsule pitcher-shaped, angular, leathery, one-celled. Seeds numerous, kidney-shaped, stalked, on three lateral receptacles.—Named from *resedo*, to calm, from its supposed effect on the system. 244.

1. *R. luteola*. *Wild Wood. Dyer's Weed. Yellow Wood*. Leaves lance-shaped, undivided ; calyx with four segments.—Stems two or three feet high, striated, smooth, branched : leaves frequently furnished with a small tooth on each side at the base : clusters terminal, erect, of numerous small flowers, with three greenish-white petals, of which the uppermost is variously lobed, the lateral ones of three acute lobes. Annual : flowers in July : grows in waste ground : common. This plant affords a beautiful yellow dye, and is cultivated for that purpose. *Eng. Bot.* vol. v. pl. 320. *Eng. Fl.* vol. ii. p. 347. 727.

2. *R. lutea*. *Rocket Yellow Weed. Base Rocket*. Leaves deeply three-lobed, lower ones pinnatifid ; calyx with six divisions.—Stem about two feet high, bushy, branched, striated, smooth : leaves somewhat stalked : clusters terminal, many-flowered, tapering : petals six, buff-coloured, variously lobed. Perennial : flowers in July and August : grows in waste places and dry pastures : frequent. *Eng. Bot.* vol. v. pl. 321. *Eng. Fl.* vol. ii. p. 348. 728.

3. *R. fruticulosa*. *Shrubby Base Rocket*. Leaves all pinnate, waved, glaucous ; calyx deeply five-cleft ; petals five, three-cleft at the summit.—Root woody, tapering : stems two or three feet high, leafy : flowers in terminal racemes, yellowish-white. Perennial : flowers in June : found in various parts of England and Ireland : rare. It is an introduced plant. *Eng. Bot. Suppl.* pl. 2628. *Brit. Fl.* 4th ed. p. 192. 729.

## DODECAGYNIA.

### 5. SEMPERVIVUM. HOUSE-LEEK.

Calyx inferior, of one leaf, deeply divided into several acute segments, permanent. Petals from six to twelve, corresponding to the segments of the calyx, somewhat larger, lance-shaped, acute, equal, withering. Filaments as many, or twice as many, as the

shaped, notched. Filaments hair-like, very short; anthers oblong, with a bristly point. Germen globular, inferior. Style cylindrical, longer than the stamens; stigma simple, acute. Capsule nearly globular, with three blunt angles, three cells, and three valves. Seeds numerous, globular.—Named from *gala*, milk, and *anthos*, a flower. 180.

1. *G. nivālis*. *Snowdrop*. Bulb egg-shaped; leaves keeled, linear, obtuse; stalk three or four inches high, round; a two-nerved membranous bractea or sheath.—Flower pendulous, with white petals, the three inner streaked with green on the inside, and having a spot of the same colour on the outside. Perennial: flowers in February: grows in meadows, hedges, and woods, but not indigenous: common. *Eng. Bot.* vol. i. pl. 19. *Eng. Fl.* vol. ii. p. 129. 496.

## 2. LÉUCOJUM. SNOWFLAKE.

Calyx none. Petals six, regular, egg-shaped, nearly equal. Filaments short, erect, flattened; anthers linear, four-cornered. Germen egg-shaped, inferior. Style round, blunt; stigma acute, with a bristly point. Capsule turbinate, obtuse, three-celled, three-valved. Seeds numerous, globular.—Named from *leucos*, white, and *ion*, a violet. 181.

1. *L. aestivum*. *Summer Snowflake*. Flowers several; style club-shaped.—About a foot and a half high: leaves linear, obtuse, with a blunt keel: stalk two-edged, hollow, bearing four or more flowers: petals uniform, each with a green spot on both sides. Perennial: flowers in May: grows in moist meadows, near rivers in England: rare, and perhaps not indigenous. Between Greenwich and Woolwich, and in the Isle of Dogs; in an island in the river, near Kendal; at Little Stonham, Suffolk. *Eng. Bot.* vol. ix. pl. 621. *Eng. Fl.* vol. ii. p. 130. 496.

## 3. NARCISSUS. NARCISSUS.

Calyx none. Petals six, egg-shaped, pointed, flat, attached to the outside of the tube of the nectary, above the base. Nectary of one leaf, cylindrical below, funnel-shaped above, with a coloured border. Filaments awl-shaped, attached to the tube of the nectary, short; anthers linear. Germen inferior, roundish, with three blunt corners. Style thread-shaped, triangular, longer than the stamens; stigma three-cleft. Capsule roundish, with three blunt corners, three-celled, three-valved. Seeds numerous, globular.—Named after the youth *Narcissus*. 182.

1. *N. poeticus*. *Poetic Narcissus*. Flowers solitary; cup of the nectary very short, membranous and notched at the edge; leaves bluntly keeled, with reflected edges.—Flower pure white: the nectary edged with crimson: fragrant. Perennial: flowers in May: grows in dry open fields in England: rare. *Eng. Bot.* vol. iv. pl. 275. *Eng. Fl.* vol. ii. p. 131. 497.

2. *N. biflorus*. *Pale Narcissus*. *Primrose-peerless*. Flowers in pairs; cup of the nectary very short, membranous and notched at the edge; leaves acutely keeled, with inflected edges.—Petals pale sulphur-yellow: border of the nectary white. Perennial:



flowers in April and May: grows in sandy fields, in England and Ireland: rare. *Eng. Bot.* vol. ii. pl. 276. *Eng. Fl.* vol. ii. p. 132. 498.

3. *N. Pseudo-Narcissus*. *Common Daffodil*. Flowers solitary; cup of the nectary bell-shaped; erect, curled, as long as the egg-shaped petals.—Petals pale-yellow: nectary deep-yellow. Perennial: flowers in March: grows in woods and thickets in England and Ireland: rare. Probably the above three species are not indigenous: the two first at least are not. *Eng. Bot.* vol. i. pl. 17. *Eng. Fl.* vol. ii. p. 132. 499.

#### 4. ALLIUM. GARLICK.

Calyx none. Petals six, inferior, oblong, regular, the three inner somewhat smaller. Filaments awl-shaped, flattened, as long as the corolla; anthers solitary, oblong. Germen superior, turbinate, angular. Style simple, erect; stigma acute. Capsule three-lobed, three-celled, three-valved. Seeds few, roundish, angular. 183.

##### \* *Stem leafy. Leaves flat.*

1. *A. Ampeloprasum*. *Great Round-headed Garlick*. Umbel globose, without bulbs; three alternate stamens deeply three-cleft; keel of the petals rough.—Petals uniform, pale-purple, unaccompanied by bulbs. Perennial: flowers in August: Isle of Holmes in the Severn, where it was formerly cultivated. *Eng. Bot.* vol. xxiv. pl. 1657. *Eng. Fl.* vol. ii. p. 133. 500.

2. *A. arenarium*. *Sand Garlick*. Umbel globosc, bearing bulbs; three alternate stamens dilated and three-cleft; keel of the petals roughish.—Flowers deep-red, intermixed with dark-purple bulbs. Perennial: flowers in July: grows in woods and fields in hilly districts: rare. *Eng. Bot.* vol. xix. pl. 1858. *Eng. Fl.* vol. ii. p. 134. 501.

3. *A. carinatum*. *Mountain Garlick*. Umbel loose, bearing bulbs; stamens simple, awl-shaped.—Flowers dull-yellow, speckled with brown. Perennial: flowers in July: grows in dry mountainous pastures and sandy ground: rare. *Eng. Bot.* vol. xxiv. pl. 1658. *Eng. Fl.* vol. ii. p. 135. 502.

##### \*\* *Stem leafy. Leaves roundish.*

4. *A. oleraceum*. *Streaked Field Garlick*. Umbel loose, bearing bulbs; leaves semi-cylindrical, channelled above, ribbed beneath; stamens simple, awl-shaped.—Flowers reddish: bulbs numerous, purple. Perennial: flowers in July: grows in corn-fields and their borders: rare. The leaves are boiled in soups. *Eng. Bot.* vol. vii. pl. 488. *Eng. Fl.* vol. ii. p. 136. 503.

5. *A. vineale*. *Crow Garlick*. Umbel spherical, bearing bulbs; leaves cylindrical, smooth; three alternate stamens deeply three-cleft.—Flowers small, pale rose-coloured, with green keels: bulbs greenish. Perennial: flowers in July: grows in dry pastures, corn-fields, &c.: common. *Eng. Bot.* vol. xxviii. pl. 1974. *Eng. Fl.* vol. ii. p. 137. 504.

6. *A. sphærocephalum*. *Small Round-headed Garlick*. Umbel spherical, without bulbs; leaves nearly cylindrical, smooth, channelled above.—Scape leafy below: capsule triangular, with blunt edges: bulb accompanied by stalked offsets. Perennial: flowers in June and July: grows on the sands of St. Aubin's bay; Jersey,

where it was discovered by Messrs. Babington and Christy. *Eng. Bot. Suppl.* pl. 2813. *Brit. Fl.* 4th ed. p. 140. 505.

\*\*\* *Stalk from the root, leafless.*

7. *A. ursinum*. *Broad-leaved Garlick. Ramsons.* Leaves between egg-shaped and lance-shaped, stalked; scape triangular; umbel level at the top.—Leaves one or two, large, bright-green: flowers pure white, with acute petals. Perennial: flowers in May and June: grows in moist woods, hedges, and meadows: common. *Eng. Bot.* vol. ii. pl. 122. *Eng. Fl.* vol. ii. p. 138. 506.

8. *A. Schœnopræsum*. *Chive Garlick.* Leaves cylindrical, somewhat tapering at the point; scape round; umbel hemispherical.—Flowers purple, with acute petals. Perennial: flowers in June: grows in meadows and pastures in England and Scotland: rare. Used as a pot-herb. *Eng. Bot.* vol. xxxiv. pl. 2441. *Eng. Fl.* vol. ii. p. 138. 507.

#### 5. FRITILLARIA. FRITILLARY.

Calyx none. Corolla inferior, bell-shaped, of six oblong petals. Nectary a cavity at the base of each petal, above. Filaments awl-shaped, shorter than the corolla; anthers oblong, four-cornered. Germen superior, oblong, triangular. Style simple, long; stigmas three, oblong, downy on the upper side. Capsule oblong, obtuse, three-lobed, three-celled, three-valved. Seeds very numerous, flat.—Name from *fritillus*, a dice-board. 184.

1. *F. Meleagris*. *Fritillary. Snake's-head.* All the leaves alternate, narrow, lance-shaped, pointed; stem single-flowered.—Stem a foot high: flower terminal, pendulous, chequered with pale and dark-purple: the points of the petals turned inwards. Perennial: flowers in April: grows in moist meadows, in the east and south of England: rare. *Eng. Bot.* vol. ix. pl. 622. *Eng. Fl.* vol. ii. p. 139. 508.

#### 6. TULIPA. TULIP.

Calyx none. Corolla inferior, of six egg-shaped petals, bell-shaped. Filaments erect, flattish; anthers oblong, four-cornered. Germen superior, oblong, large, with three blunt corners. Style none; stigma triangular. Capsule triangular, three-valved, three-celled. Seeds numerous, egg-shaped, flat.—Named from *Toliban*, the Persian for a turban. 185.

1. *T. sylvestris*. *Wild Tulip.* Flower rather drooping; leaves lance-shaped; stamens hairy at the base.—Bulb egg-shaped: stem about a foot high, leafy at the middle: leaves alternate, lance-shaped, smooth, clasping the stem: flowers bright-yellow, externally greenish. Perennial: flowers in April: naturalized in chalk-pits and quarries, in various parts of England and Scotland. *Eng. Bot.* vol. i. pl. 63. *Eng. Fl.* vol. ii. p. 140. 509.

#### 7. ORNITHOGALUM. STAR OF BETHLEHEM.

Calyx none. Petals six, inferior, lance-shaped, erect at first, then spreading, permanent. Filaments erect, flattish, three of them broader at the base; anthers oblong. Germen superior, angular. Style awl-shaped, permanent; stigma blunt. Capsule roundish, angular, three-celled, three-valved. Seeds numerous, roundish.—Named from *ornis*, a bird, and *gala*, milk. 186.

1. *O. luteum*. *Yellow Star of Bethlehem*. Stem angular, two-leaved; flower-stalks in an unbranched umbel. Stem from four to six inches high: root-leaf narrow lance-shaped, ribbed, keeled, erect, taller than the stem: flowers yellow, tipped with green on the inner side, and nearly green on the outer. Perennial: flowers in April: grows in woods and pastures: rare. *Eng. Bot.* vol. i. pl. 21. *Eng. Fl.* vol. ii. p. 142. 510.

2. *O. pyrenaicum*. *Tall Star of Bethlehem*. Cluster very long; filaments lance-shaped; flower-stalks equal, spreading, afterwards erect.—Stalk two feet high: leaves all radical, linear, channelled, smooth: flowers pale-yellow within, green without. Perennial: flowers in June: grows in pastures in England: rare. *Eng. Bot.* vol. vii. pl. 499. *Eng. Fl.* vol. ii. p. 143. 511.

3. *O. umbellatum*. *Common Star of Bethlehem*. Flowers forming a corymb, the partial stalks taller than the main one; filaments dilated, entire.—Leaves radical, linear, channelled, smooth, stalk about six inches high, bearing a corymb of flowers which are white on the upper side, green on the back. Perennial: flowers in April and May: grows in meadows, pastures and woods, but is not indigenous: rare. *Eng. Bot.* vol. ii. pl. 130. *Eng. Fl.* vol. ii. p. 143. 512.

4. *O. nutans*. *Drooping Star of Bethlehem*. Flowers forming a loose raceme, drooping, unilateral; filaments broad, cloven, the alternate ones longer, and with deeper lobes. Larger than the last, especially in the flower, which is white on the upper side, green on the back. Perennial: flowers in April and May: grows in fields and orchards in England: rare, and not truly wild. *Eng. Bot.* pl. 1997. *Brit. Fl.* 4th ed. p. 140. 513.

#### 8. SCILLA. SQUILL.

Calyx none. Petals six, inferior, oblong, spreading. Filaments all thread-shaped, simple, half as long as the petals; anthers oblong. Germen superior, roundish. Styles simple, shorter than the stamens, deciduous; stigma simple. Capsule roundish with three furrows, three-celled, three-valved. Seeds numerous, roundish.—Named from *scyllo*, to injure. 187.

1. *S. verna*. *Vernal Squill*. Corymb hemispherical, few-flowered; bracteas lance-shaped, obtuse; leaves linear, channelled.—Leaves numerous, deep-green: flowers deep-blue: stalk three or four inches high. Perennial: flowers in April, May, and June: grows in sandy pastures by the sea-shore: rare. Howth and Killiney, Ireland; Isle of Man; Anglesea, Wales, Cornwall, Iona, Staffa, Caithness, Sutherland, Shetland, Orkneys, Barra. *Eng. Bot.* vol. i. pl. 23. *Eng. Fl.* vol. ii. p. 145. 514.

2. *S. autumnalis*. *Autumnal Squill*. Cluster somewhat corymbose, without bracteas; leaves linear, numerous.—Flowers rose-coloured: stalk about three inches high. Perennial: flowers in September: grows in dry pastures in the south of England: rare. *Eng. Bot.* vol. ii. pl. 78. *Eng. Fl.* vol. ii. p. 146. 515.

#### • 9. HYACINTHUS. HYACINTH.

Calyx none. Corolla inferior, of one petal, deciduous, with a somewhat bell-shaped tube, and six-cleft reflected limb. Filaments awl-shaped, equal; anthers oblong. Germen superior, roundish, with three corners and three grooves. Style simple,

shorter than the tube, deciduous; stigma obtuse. Capsule roundish, three-cornered, three-celled, three-valved. Seeds few, globular.—Named after the youth *Hyacinthus*. 188.

1. *H. racemósus*. *Starch Hyacinth*. Flowers egg-shaped, with six furrows; leaves linear, channelled, flaccid.—Leaves numerous, deep-green: stalk solitary, erect, round, shorter than the leaves: flowers dark-blue. Perennial: flowers in May: grows in grassy fields, or among ruins, in England, but not truly wild: rare. *Eng. Bot.* vol. xxvii. pl. 1931. *Eng. Fl.* vol. ii. p. 149. 516.

2. *H. nonscriptus*. *Harebell*. *Wild Hyacinth*. Cluster drooping; flowers hanging, the points of the petals reflected; bractæas in pairs.—Leaves numerous, pale-green: stalk about a foot high: corolla pale-blue. Perennial: flowers in May: grows in thickets, woods, fields, &c.: abundant. *Eng. Bot.* vol. vi. pl. 377. *Eng. Fl.* vol. ii. p. 147. 517.

#### 10. ANTHERICUM. SPIDERWORT.

Calyx none. Petals six, inferior, oblong, spreading. Filaments thread-shaped; anthers roundish. Germen inferior, roundish, with three angles. Style thread-shaped, erect, permanent; stigma obtuse. Capsule roundish, three-cornered, three-celled, three-valved, crowned with the style. Seeds few, angular.—Named from *anthericos* of the Greeks. 189.

1. *A. scrofinum*. *Mountain Spiderwort*. Leaves semi-cylindrical, those on the stem dilated at the base; flower solitary.—Flowers erect, white, veined externally with green. Perennial: flowers in June: grows on some of the highest Welsh mountains: very rare. *Eng. Bot.* vol. xii. pl. 793. *Eng. Fl.* vol. ii. p. 150. 518.

#### 11. NARTHECIUM. ASPHODEL.

Calyx none. Petals six, equal, lance-shaped, spreading, permanent. Filaments six, awl-shaped, woolly; anthers small, oblong. Germen superior, oblong, triangular. Style conical, short; stigma simple. Capsule oblong, pointed, bluntly triangular, three-celled, three-valved. Seeds numerous, erect, small, oblong.—Named from *narthes*, a rod. 190.

1. *N. Ossifragum*. *Bog Asphodel*. Cluster uninterrupted; one bractæa at the base, another above the middle of each partial stalk.—Six or eight inches high: leaves sword-shaped, those on the stem much smaller: flowers yellow, green on the back. Perennial: flowers in June and July: grows on wet heaths: frequent. *Eng. Bot.* vol. viii. pl. 535. *Eng. Fl.* vol. ii. p. 151. 519.

#### 12. ASPARAGUS. ASPARAGUS.

Calyx none. Corolla inferior, divided into six equal, oblong segments, permanent. Filaments thread-shaped, short; anthers oblong, erect. Germen globular. Style very short; stigma three-lobed. Berry globular, three-celled. Seeds one or two in each cell.—Name used by the Greeks, from *asparasso*, to tear. 191.

1. *A. officinilis*. *Common Asparagus*. Stem herbaceous, cylindrical, erect; leaves bristle-shaped, flexible; stipules solitary.—

About a foot high: leaves tufted, small, bright-green: flowers axillar, two or three together, greenish-white: berry scarlet. Perennial: flowers in August: grows on the sea-coast in the south and south-west of England: rare. *Eng. Bot.* vol. v. pl. 339. *Eng. Fl.* vol. ii. p. 153. 520

### 13. CONVALLARIA. SOLOMON'S SEAL. •

Calyx none. Corolla inferior, of one petal, bell-shaped, deciduous, with six obtuse segments. Filaments awl-shaped, shorter than the corolla: anthers oblong, erect. • Germen globular. Style thread-shaped, longer than the stamens; stigma triangular, obtuse. Berry globular, three-celled. Seeds two in each cell, roundish.—Name from *convallis*, a valley. 192.

1. *C. majalis*. *Lily of the Valley*. Stalk naked, semi-cylindrical; cluster simple; flowers drooping, cup-shaped.—Leaves two, radical, elliptical, ribbed, stalked, pale-green: flowers white, elegant, sweet-scented: berry scarlet. Perennial: flowers in May: grows in woods, but has probably been introduced: frequent. *Eng. Bot.* vol. xv. pl. 1035. *Eng. Fl.* vol. ii. p. 151. 521

2. *C. verticillata*. *Narrow-leaved Solomon's Seal*. Leaves narrow, lance-shaped, in whorls.—Stem erect, about two feet high, naked below, leafy above: flower-stalks axillar, solitary, each bearing from two to four pendulous white flowers: berry deep-blue. Perennial: flowers in June: grows in woods, in Scotland: very rare. Den Rechip, near Dunkeld, and woods near Blairgowrie. *Eng. Bot.* vol. ii. pl. 128. *Eng. Fl.* vol. ii. p. 155. 522

3. *C. polygonatum*. *Angular Solomon's Seal*. Leaves alternate, embracing the stem; flower-stalks axillar, mostly one-flowered, stamens smooth.—Stem from twelve to eighteen inches high: flowers white, with a green line running down each segment, which is bearded at the tip: berries black. Perennial: flowers in May and June: grows in rocky mountainous woods, in England: rare. *Eng. Bot.* vol. iv. pl. 280. *Eng. Fl.* vol. ii. p. 155. 523

4. *C. multiflora*. *Common Solomon's Seal*. Leaves alternate, embracing the stem; flower-stalks axillar, many-flowered; stamens downy.—Stem two feet high: flowers from two to five on each stalk, the segments white, tipped with green: berries bluish-black. Perennial: flowers in May and June: grows in woods and thickets, in England and Scotland: not common. *Eng. Bot.* vol. iv. pl. 279. *Eng. Fl.* vol. ii. p. 156. 524

### 14. ACORUS. SWEET FLAG.

Calyx none. Spadix naked, cylindrical, simple, covered with sessile flowers. Petals six, inferior, equal, obtuse, concave. Filaments thickish, erect, a little longer than the petals; anthers thick, terminal, two-lobed. Germen superior, oblong, as long as the stamens. Style none; stigma hemispherical. Capsule triangular, abrupt, three-celled. Seeds several, between egg-shaped and oblong.—Named from *a*, without, and *corion*, the pupil of the eye, in diseases of which it was once used. 193.

2. *A. Ciliatus*. *Sweet Flag*. *Myrtle Flag*. Leafy summit of the flower-stalk rising far above the spadix.—Leaves erect, two or

three feet high : stalk like the leaves, not quite so high : flowers crowded, pale-green : the whole plant is aromatic, especially the root. Perennial : flowers in May and June : grows on the banks of rivers, having a muddy bottom, in England ; and a few places in the south-west of Scotland. *Eng. Bot.* vol. v. pl. 356. *Eng. Fl.* vol. ii. p. 157. 525.

### 15. JUN'CUS. Rush.

Calyx inferior, of six oblong, acute, permanent leaves, three of them internal. Corolla none. Filaments thread-like, short ; three of them sometimes wanting ; anthers oblong, erect, two-celled. Germen superior, triangular. Style simple, cylindrical, short ; stigmas three, elongated, downy. Capsule triangular, three-celled, three-valved. Seeds numerous, minute, roundish. —Named from *jungo*, to join, the stems having been employed as cordage. 194.

\* *No leaves.*

1. *J. acutus.* *Great Sharp Sea Rush.* Straw naked, cylindrical, sharp-pointed ; panicle dense, near the summit ; bractea spinous ; capsule roundish, twice as long as the calyx. —Root fibrous : straws from three to six feet high, erect, straight, stiff : panicle lateral, corymbose, many-flowered : capsule broadly egg-shaped, triangular, sharp-pointed, brown. Perennial : flowers in July : grows on the sea-coast, in deep sand. In Merionethshire, Norfolk, Lancashire, and Devonshire : rare. *Eng. Bot.* vol. xxiii. pl. 1614. *Eng. Fl.* vol. ii. p. 159. 526.

2. *J. maritimus.* *Lesser Sharp Sea Rush.* Straw naked, cylindrical, sharp-pointed ; panicle loose, near the summit ; bractea spinous ; capsule oblong, as long as the calyx. —Root fibrous : straws about three feet high, more slender than the last : capsule prismatic. Perennial : flowers in August : grows in salt marshes : rare. *Eng. Bot.* vol. xxiv. pl. 1725. *Eng. Fl.* vol. ii. p. 159. 527.

3. *J. Balticus.* *Baltic Rush.* Straws naked, straight, acute ; panicle erect, branched, few-flowered ; bractea shorter than the panicle ; capsule elliptical. —Root creeping : straws about a foot high, smooth, with brown scales at the base : panicle near the top of the straw, dense : bractea membranous : leaves of the calyx lance-shaped, bluntish, dark-brown. Perennial : flowers in July and August. Discovered by Mr. Drummond, on the sands of Barry, near Dundee : South Uist abundant : Cape Wrath : Morayshire. *Eng. Bot. Suppl.* pl. 2621. *Eng. Fl.* vol. ii. p. 163. 528.

4. *J. glaucus.* *Hard Rush.* Straw naked, straight, deeply striated ; panicle erect, much branched ; capsule elliptical, pointed, shorter than the calyx. —Root creeping, black : straws stiff and tough, glaucous, deeply striated, about two feet high : panicle about half way between the root and summit, cymose, nearly erect : leaves of the calyx awl-shaped, pale-green, with a broad green line down the middle of the base. Perennial : flowers in July : grows in wet places, by ditches, &c. : common. *Eng. Bot.* vol. x. pl. 665. *Eng. Fl.* vol. ii. p. 160. 529.

5. *J. effusus.* *Soft Rush.* Straw naked, straight, faintly striated : panicle loose, repeatedly compound ; capsule obtuse, a little shorter than the calyx. —Root creeping : straws soft and pliant, pale-green, about two feet high : panicle very loose, about half way down

the straw: leaves of the calyx finely pointed. The pith of this and the following species is used for rush-lights: the straws are plaited into chair-bottoms and mats. Perennial: flowers in July: grows in wet meadows and pastures: common. *Eng. Bot.* vol. xii. pl. 836. *Eng. Fl.* vol. ii. p. 162. 530.

6. *J. conglomeratus*. *Common Rush*. Straw naked, straight, faintly striated; panicle very dense, globular, repeatedly branched; capsule abrupt; stamens three.—Root creeping: straws soft, pliant, about two feet high: panicle forming a dense globular head of brown flowers: leaves of the calyx pointed: the straw is larger than in the last species, and the pith is consequently better for rush-lights, or wicks to lamps. Perennial: flowers in July: grows in wet grounds. common. *Eng. Bot.* vol. xii. pl. 835. *Eng. Fl.* vol. ii. p. 161. 531.

7. *J. filiformis*. *Slender Rush*. Straw naked, slender, drooping: panicle few-flowered, corymbose; capsule nearly globular. Root creeping: straws very slender, pliant, pale-green, about a foot high: flowers from five to eight. Perennial: flowers in August: grows on the margins of lakes, in the north of England: rare. *Eng. Bot.* vol. xvii. pl. 1175. *Eng. Fl.* vol. ii. p. 162. 532.

\*\* *Plants furnished with leaves.*

8. *J. squarrosus*. *Moss Rush*, *Heath Rush*. Straw naked; leaves radical, numerous, bristle-shaped, channelled; panicle terminal, compound; capsule inversely egg-shaped.—Root tufted: straws erect, about a foot high, bluntly triangular. Perennial: flowers in June and July: grows on wet heaths: abundant. *Eng. Bot.* vol. xiii. pl. 933. *Eng. Fl.* vol. ii. p. 164. 533.

9. *J. trifidus*. *Three-leaved Rush*. Straw naked: radical leaves very few; bracteas three, leafy; a terminal head of about three flowers.—Root creeping: straws crowded, thread-shaped, erect, from four to six inches high: radical leaves one or two, very short: bracteas three, at the top of the straw, resembling leaves. Perennial: flowers in July: grows in rocky places on the higher mountains of Scotland, as Ben Lawers, Cairngorm: rare. *Eng. Bot.* vol. xxi. pl. 1482. *Eng. Fl.* vol. ii. p. 163. 534.

10. *J. compressus*. *Round-fruited Rush*. Straw simple, compressed, leafy below; leaves linear, incurved at the edges; panicle cymose, terminal, shorter than the bractea; capsule roundish, longer than the calyx.—Root creeping: straws erect, from six to twelve inches high: unbranched, round and leafy below, naked and compressed above: leaves acute, channelled. Perennial: flowers in July and August: grows in moist pastures: common. *Eng. Bot.* vol. xiii. pl. 934. *Eng. Fl.* vol. ii. p. 165. A variety of this plant, common in salt marshes, with a nearly simple few-flowered panicle longer than the bractea, is the *J. canosus*, *Mud Rush*. *Eng. Bot. Suppl.* pl. 2680. *Eng. Fl.* vol. ii. p. 166. 535.

11. *J. tenuis*. *Slender-spreading Rush*. Straw simple, naked; leaves linear, slightly channelled; panicle terminal, compound; leaves of the calyx lance-shaped, taper-pointed, three-ribbed, longer than the capsule.—Root fibrous: straw erect, very slender, about a foot high: leaves very few, radical: leaves of the calyx green, three-ribbed, acute. Perennial: flowers in July: grows on the mountains of Scotland: rare. *Eng. Bot.* vol. xxxi. pl. 2174. *J. Gesneri*. *Eng. Fl.* vol. ii. p. 167. 536.

12. *J. bufonius*. *Toad Rush*. Straw branched, leafy; leaves angular, channelled; panicle forked, longer than the bractees; leaves of the calyx lance-shaped, taper-pointed, membranous, two-ribbed, longer than the capsule.—Root fibrous: straws numerous, crowded, from four inches to a foot high. Annual: flowers in July and August: grows in marshy ground, ditches, &c.: common. *Eng. Bot.* vol. xii. pl. 802. *Eng. Fl.* vol. ii. p. 168. 537.

13. *J. uliginosus*. *Little Bulbous Rush*. Straw branched, leafy, bulbous at the base; leaves bristle-shaped, channelled; heads lateral and terminal, about three-flowered; capsule obtuse, longer than the calyx.—Straws from two to six inches high. Perennial: flowers in June and July: grows in wet places: common. *Eng. Bot.* vol. xii. pl. 801. *Eng. Fl.* vol. ii. p. 169. 538.

14. *J. capitatus*. *Dense-headed Rush*. Straw erect, simple, leafy at the base; leaves bristle-shaped, channelled; heads lateral and terminal; leaves of the calyx keeled, bristle-pointed, twice as long as the capsule; stamens three.—Root fibrous: straws from two to four inches high. Annual: flowers in the summer months: grows in sandy ground, in the island of Jersey. *Eng. Fl.* vol. ii. p. 170: *J. supinus*. *Bichen*, *Lin. Tr.* vol. xii. p. 317. 539.

15. *J. biglomis*. *Two-flowered Rush*. Straw erect, simple, leafy at the base; leaves flat; head solitary, of two flowers, overtopped by a leafy bractea.—Root fibrous: straws from two to four inches high: flowers terminal: capsule longer than the calyx. Perennial: flowers in August: grows on the higher mountains of Scotland: rare. *Eng. Bot.* vol. xiii. pl. 898. *Eng. Fl.* vol. ii. p. 172. 540.

16. *J. triglomis*. *Three-flowered Rush*. Straw erect, simple, leafy below; leaves flat; head solitary, terminal, of three flowers, with elliptical bractees.—Roots creeping: straws from three to six inches high. Perennial: flowers in July: grows on the higher mountains of Wales, the north of England, and Scotland: frequent. *Eng. Bot.* vol. xiii. pl. 899. *Eng. Fl.* vol. ii. p. 173. 541.

17. *J. castaneus*. *Clustered Alpine Rush*. Straws simple, leafy; leaves flat, keeled; heads terminal, mostly in pairs, many-flowered, with leafy bractees; capsule twice as long as the calyx.—Root creeping: straws solitary, erect, from eight to twelve inches high. Perennial: flowers in July: grows in the Highlands of Scotland, and in the north of England: rare. *Eng. Bot.* vol. xiii. pl. 900. *Eng. Fl.* vol. ii. p. 174. 542.

18. *J. acutiflorus*. *Sharp-flowered Rush*. Leaves apparently jointed, somewhat compressed; panicle repeatedly compound, terminal; leaves of the calyx lance-shaped, nearly as long as the narrow egg-shaped, taper-pointed capsule.—From one to two feet high: flowers greenish-brown. Perennial: flowers in July and August: grows in bogs, ditches, &c.: very common. *Eng. Bot.* vol. xxx. pl. 2143. *Eng. Fl.* vol. ii. p. 174. 543.

19. *J. lampocarpus*. *Shining-fruited Rush*. Leaves apparently jointed, compressed; panicle repeatedly compound, terminal, erect, three inner leaves of the calyx rather blunt; capsule egg-shaped, acute, longer than the calyx, shining.—From one to two feet high. Perennial: flowers in July and August: grows in bogs and ditches: common. *Eng. Bot.* vol. xxx. pl. 2143. *Eng. Fl.* vol. ii. p. 175. 544.



20. *J. obtusiflorus*. *Blunt-flowered Rush*. Leaves apparently jointed, cylindrical; panicle very much compounded, spreading; leaves of the calyx very obtuse, as long as the capsule. Straws with internal partitions, about two feet high. Perennial: grows in marshy places: not common. *Eng. Bot.* vol. xxx. pl. 2114. *Eng. Fl.* vol. ii. p. 176. The *J. polycephalus*, *Many-headed jointed Rush*, found in the Highlands of Scotland, by Mr. G. Don, is a variety of this plant, with a panicle less branched, and clusters of more numerous flowers. *Eng. Bot. Suppl.* pl. 2643. *Eng. Fl.* vol. ii. p. 177. 545.

#### 16. LUZULA. WOOD RUSH.

Calyx inferior, of six oblong, acute, permanent leaves, three of them internal. Corolla none. Filaments thread-like, short; anthers oblong, erect, two-celled. Germen superior, triangular. Style simple, thread-shaped, short; stigmas three, tapering, downy. Capsule triangular, one-celled, three-valved. Seeds three, at the bottom of the capsule.—Name altered from *lucciola*, a glow-worm. 195.

1. *L. pilosa*. *Broad-leaved Hairy Wood Rush*. Panicle cymose, widely spreading; flowers solitary; capsule pointless; leaves of the calyx long-pointed, shorter than the capsule.—Stem about a foot high: leaves between linear and lance-shaped, ribbed, fringed with long, white hairs. Perennial: flowers in April and May: grows in woods and thickets: common. *Eng. Bot.* vol. xi. pl. 736. *Eng. Fl.* vol. ii. p. 178. 546.

2. *L. Forstéri*. *Narrow-leaved Hairy Wood Rush*. Panicle cymose, erect; flowers solitary; capsule pointed; leaves of the calyx long-pointed, a little longer than the capsule.—More slender than the last, and the leaves much narrower. Perennial: flowers in April and May: grows in woods and thickets: frequent. *Eng. Bot.* vol. xviii. pl. 1293. *Eng. Fl.* vol. ii. p. 179. 517.

3. *L. sylvestica*. *Great Wood Rush*. Panicle cymose, doubly compound; flowers aggregate; capsule pointed; leaves of the calyx awned, as long as the capsule.—From two to three feet high: leaves broad, hairy on the edges, the root-leaves forming a large tuft. Perennial: flowers in May: grows in woods and shady places: common. *Eng. Bot.* vol. xi. pl. 737. *Eng. Fl.* vol. ii. p. 180. 548.

4. *L. campestris*. *Field Rush*. Panicle of three or four egg-shaped, dense clusters; capsule inversely egg-shaped, obtuse, with a small point; leaves of the calyx long-pointed, longer than the capsule.—Root scaly, creeping, tufted: stems from three to ten inches high, simple, straight: leaves dark-green, very hairy at the margin: leaves of the calyx lance-shaped, pointed, dark-brown. Perennial: flowers in April and May: grows in dry pastures: frequent. *Eng. Bot.* vol. x. pl. 672. *Eng. Fl.* vol. ii. p. 181. A large variety of this plant, with the flowers collected into a nearly round head, is the *L. corymbosa*, *Many-headed Bog Wood Rush*, of many botanists. *Eng. Bot. Suppl.* pl. 2719. *Eng. Fl.* vol. ii. p. 181. 549.

5. *L. spicata*. *Spiked Wood Rush*. Panicle compound, dense, oblong, drooping; capsule elliptical, with a small point; leaves of the calyx between taper-pointed and awned, as long as the capsule.—

From six to eight inches high: leaves small, somewhat channelled, hairy at the margins of the sheaths. Perennial: flowers in July: grows on the higher mountains of Scotland and Westmoreland. *Eng. Bot.* vol. xviii. pl. 1176.. *Eng. Fl.* vol. ii. p. 182. 550.

6. *L. arcuata*. *Curved Mountain Wood Rush*. Panicle somewhat umbellate, partly compound, with drooping branches; capsule elliptical, shorter than the lance-shaped, acute leaves of the calyx.—Stem three or four inches high: root-leaves numerous, linear, channelled, slightly hairy: stem-leaves flatter. Perennial: flowers in July: grows on the summits of some of the highest mountains of the Cairngorm Range in Scotland. *Flora Lond.* N. S. pl. 153. *Eng. Fl.* vol. ii. p. 183. 551.

#### 17. BERBERIS. BARBERRY.

Calyx inferior, of six inversely egg-shaped, spreading, coloured leaves, the three outer smaller. Petals six, roundish, spreading, the claw of each having two oblong nectariferous glands. Filaments linear, flattened; anthers of two separate lobes, on the opposite edges of the top of the filament. Germen superior, oblong. Stigma round, broader than the germen, permanent. Berry oblong, one-celled, pulpy. Seeds two or three, oblong, cylindrical.—Name, *berberys*, the Arabic for the plant. 196.

1. *B. vulgaris*. *Common Barberry*. Clusters pendulous; thorns three-cleft; leaves inversely egg-shaped, with bristly serratures.—A bushy shrub, three or four feet high: flowers bright-yellow: the stamens on being irritated, contract, and thus throw the pollen upon the stigma: berries scarlet, very acid, when boiled with sugar forming a very agreeable jelly. Perennial: flowers in June: grows in woods and hedges: common. This plant is said to be prejudicial to growing corn, causing barrenness in the ears. *Eng. Bot.* pl. 49. *Eng. Fl.* vol. ii. p. 184. 552.

#### 18. FRANKENIA. FRANKENIA.

Calyx inferior, of one leaf, nearly cylindrical, five-cornered, permanent; the border with five acute teeth. Petals five, the claws as long as the calyx, the limbs inversely egg-shaped, spreading. Nectary a channelled membrane, on the inner side of each claw. Filaments six, as long as the calyx; anthers of two roundish lobes. Germen superior, egg-shaped, with three furrows. Style erect, cylindrical, as long as the stamens; stigmas three, oblong, erect. Capsule oval, one-celled, three-valved. Seeds numerous, egg-shaped, minute.—Named after *John Frankén*, a Swedish botanist. 197.

1. *F. levis*. *Smooth Sea-heath*. Leaves linear, crowded, fringed at the base.—Root woody: stems prostrate, branched, slightly downy: flowers from the forks of the stem, sessile, solitary, flesh-coloured. Perennial: flowers in July: grows in salt marshes on the coasts of England: rare. *Eng. Bot.* vol. iii. pl. 205. *Eng. Fl.* vol. ii. p. 186. 553.

#### 19. PEPLIS. WATER PURSLANE.

Calyx inferior, of one leaf, bell-shaped, large, permanent,

with six acute segments, and six intermediate plaits. Petals six, very minute, egg-shaped, from the mouth of the calyx. Filaments thread-shaped, incurved, short; anthers roundish. Germen egg-shaped. Style cylindrical, very short; stigma round and flat. Capsule globose, two-celled, with a transverse partition. Seeds numerous, minute, triangular.—Named from *peplion*, anciently applied to an allied plant. 198.

1. *P. Pórtula. Water Purslane.* Petals generally wanting: leaves opposite, inversely egg-shaped, stalked.—Stems numerous, creeping: flowers small, axillar, solitary, reddish. Annual: flowers in July and August: grows in watery places, especially such as become dry in summer: frequent. *Eng. Bot.* vol. xvii. pl. 1121. *Eng. Fl.* vol. ii. p. 187. 554.

## DIGYNIA.

### 20. OXYRIA. MOUNTAIN SORREL.

Calyx inferior, of two opposite, lance-shaped, permanent leaves. Petals two, inversely egg-shaped, erect, permanent. Filaments awl-shaped, shorter than the calyx; anthers erect, two-lobed. Germen superior, egg-shaped, compressed, with membranous edges, cleft. Styles very short, erect; stigmas in many tufted segments. Seed one, egg-shaped, compressed, with a dilated, membranous wing.—Named from *oxys*, acid. 199.

1. *O. renifórmis. Kidney-leaved Mountain Sorrel.* Stem from six inches to a foot high, almost leafless: leaves almost all radical, numerous, kidney-shaped: panicle erect, branched: flowers small, drooping. Perennial: flowers in June: grows on moist rocks and by rills, on the higher mountains of Scotland, Wales, the north of England, and Ireland: abundant. *Eng. Bot.* vol. xiii. pl. 910. *Eng. Fl.* vol. ii. p. 188. 555.

## TRIGYNIA.

### 21. RU'MEX. DOCK SORREL.

Calyx inferior, of three obtuse, permanent leaves. Petals three, larger than the calyx, and similar in colour, but thinner and more veiny, permanent, ultimately enlarged and converging round the seed. Filaments thread-shaped, very short; anthers erect, oblong, two-lobed. Germen superior, triangular. Styles thread-shaped, spreading, standing out between the petals; stigma large, in many tufted segments. Seed single, triangular, polished. Name of unknown origin. 200.

\* *Flowers all perfect.*

1. *R. sanguineus. Bloody-veined Dock.* Enlarged petals entire, oblong, one at least bearing a tubercle; leaves lance-shaped, somewhat heart-shaped.—Stem two or three feet high, erect, branched, leafy, reddish. Leaves all stalked, slightly curled at the edges, with

procumbent at the base: leaves ternate: leaflets oblong, deeply serrate, acute: calyx ribbed, hairy: petals bright-yellow. The root of this plant is used very extensively in the Hebrides for tanning. From its astringent quality, it is also employed as a gargle in enlarged tonsils and other diseases of the throat. Perennial: flowers in June and July: grows in pastures, heaths and woods: common. *Eng. Bot.* vol. xii. pl. 863. *Eng. Fl.* vol. ii. p. 428. 786.

2. *T. réptans. Trailing Tormentil.* Stem prostrate, scarcely branched; leaves stalked.—Root woody: stems about two feet long: leaves ternate or quinate: leaflets inversely egg-shaped, hairy, deeply serrate: calyx ribbed, hairy: petals bright-yellow, larger than in the last species, of which some have taken this as a variety. Both species have occasionally five petals, and ten segments to the calyx. Perennial: flowers in June and July: grows in woods and barren pastures: common. *Eng. Bot.* vol. xii. pl. 864. *Eng. Fl.* vol. ii. p. 428. 787.

#### 10. GEUM. AVENS.

Calyx inferior, of one leaf, the limb deeply divided into ten acute segments, of which five alternate ones are much smaller. Petals five, rounded, undivided or cleft, as long as the calyx. Filaments awl-shaped, shorter than the corolla; anthers short, roundish, two-celled. Germens superior, egg-shaped, compressed, numerous, collected into a round head. Styles long, lateral, with a joint above the middle, one to each germen; stigma simple. Seeds egg-shaped, compressed, hairy. Receptacle cylindrical, dry, hairy.—Named from *geuo*, to smell agreeably. 255.

1. *G. urbanum. Common Avens. Herb Bennet.* Leaves ternate, root-leaves somewhat lyrate; flowers erect; styles naked.—Root of large fibres: stems erect, two feet high, round, branched at the upper part: root-leaves on long stalks, interruptedly pinnate, with a large rounded terminal leaflet: stem-leaves ternate, stalked: uppermost leaves simple, three-lobed: flowers terminal, solitary, stalked, with yellow petals: styles curved. A variety occurs, intermediate between this and the next species. The roots gathered in the spring, and put into ale, give it a pleasant flavour. Perennial: flowers from May to September: grows in woods, hedges, and waste places: common. *Eng. Bot.* vol. xx. pl. 1400. *Eng. Fl.* vol. ii. p. 430. 788.

2. *G. rivale. Water Avens.* Root-leaves interruptedly pinnate, somewhat lyrate; flowers drooping; styles hairy.—Root somewhat woody, creeping: stem nearly a foot high, slightly panicle: root-leaves stalked, the terminal lobe very large, rounded, lobed and crenate: stem-leaves ternate or three-lobed: flowers drooping: calyx purplish-brown: petals erect, cleft, yellowish-brown. The root is astringent and aromatic. Perennial: flowers in June and July: grows in moist meadows and woods, and by ditches and streams. *Eng. Bot.* vol. ii. pl. 106. *Eng. Fl.* vol. ii. p. 431. A variety intermediate between this and the preceding is not uncommon. 789.

#### 11. DRYAS. MOUNTAIN AVENS.

Calyx inferior, of one leaf, flat, permanent, the limb deeply divided into eight or ten permanent segments. Petals eight,

sometimes ten, roundish, undivided, longer than the calyx. Filaments hair-like, much shorter than the corolla. Anthers small, roundish, two-lobed. Germens numerous, small, oblong. Styles hair-like, long, straight; stigma simple, smooth. Seeds oblong, hairy, each with a very long, hairy, lateral tail. Receptacle depressed, downy.—Named from *drys*, the oak, on account of a similarity in the leaves. 256.

1. *D. octopétala*. *Mountain Aescus*. Petals eight; leaves simple, downy beneath.—Roots woody: stems erect, somewhat woody: leaves stalked, evergreen, egg-shaped, serrate, cottony beneath: flowers large, solitary, white: styles feathery. Perennial: flowers in June: grows on the higher mountains of Scotland, England, and Ireland: frequent. *Eng. Bot.* vol. vii. pl. 451. *Eng. Fl.* vol. ii. p. 432. 790.

## 12. COMA'RUM. MARSH CINQUEFOIL.

Calyx inferior, of one leaf, coloured, permanent, the limb divided into ten deep, acute, spreading segments, of which five alternate ones are external and much smaller. Petals five, less than the small segments of the corolla, lance-shaped, acute. Filaments awl-shaped, erect, nearly as long as the corolla; anthers roundish, two-celled. Germens numerous, small, egg-shaped, collected into a head. Styles simple, short, straight, lateral; stigmas simple. Seeds numerous, naked, egg-shaped, upon a large, dry, hairy, permanent receptacle.—Name *coma-ros*, used by Theophrastus. 257.

1. *C. palustre*. *Marsh Cinquefoil*.—Root creeping: stems ascending, round, panicle in the upper part, about a foot high: lower leaves stalked, of five or seven oblong, acute, serrate leaflets, downy and whitish beneath: the upper ternate, nearly sessile: flowers on panicle, downy stalks: calyx large, dark-purple: petals very small, purplish. Perennial: flowers in June and July: grows in boggy places. *Eng. Bot.* vol. iii. pl. 172. *Eng. Fl.* vol. ii. p. 434. 791.

## CLASS XIII. POLYANDRIA.

*Plants bearing Flowers with numerous Stamens, arising from the receptacle.*

### Order I. MONOGYNIA. One Pistil.

\* *Petals four.*

4. PAPA'VER. *Calyx* two-leaved, caducous. *Capsule* one-celled, opening by pores under the stigma.
2. CHELIDŌNIUM. *Calyx* two-leaved, caducous. *Pod* linear, one-celled.
3. GLAU'CIUM. *Calyx* two-leaved, caducous. *Pod* linear, with two or three cells.
1. ACTÆ'A. *Calyx* four-leaved, caducous. *Berry* one-celled.

\*\* *Petals five.*

8. HELIANTHEMUM. *Calyx* of three or five leaves, two of them smaller. *Capsule* of several valves. *Seeds* numerous.
7. TILIA. *Calyx* of one leaf, with five deep, equal segments, deciduous. *Capsule* five-celled, without valves.

(*Delphinium Consolida.*) •

\*\*\* *Petals numerous.*

5. NYMPHÆA. *Calyx* of four or five leaves, larger than the petals. *Petals* numerous, seated upon the germen. *Berry* many-celled, many-seeded. •
6. NUPHAR. *Calyx* of five or six leaves, much larger than the petals. *Petals* numerous, seated upon the receptacle. *Berry* many-celled, many-seeded.

## Order II. PENTAGYNIA. *From Two to Six Pistils.*

9. PÆONIA. *Calyx* five-leaved. *Petals* five. *Styles* none. *Follicle* with many seeds.
10. DELPHINIUM. *Calyx* none. *Petals* five, the upper one spurred. *Nectary* divided, tubular, sessile, in the spur.
11. ACONITUM. *Calyx* none. *Petals* five, the upper one hooded. *Nectaries* two, recurved, stalked, under the hood.
12. AQUILEGIA. *Calyx* none. *Petals* five, equal. *Nectaries* five, spurred below.
13. STRATIOTES. *Calyx* three-cleft. *Petals* three. *Berry* inferior, angular, six-celled.

(*Reseda Luteola. Helleborus viridis and fœtidus.*)

## Order III. POLYGYNIA. *Numerous Pistils.*

16. THALICTRUM. *Calyx* none. *Petals* four or five. *Seeds* numerous, without appendage.
15. CLEMATIS. *Calyx* none. *Petals* from four to eight. *Seeds* numerous, with a tail.
14. ANEMONE. *Calyx* none. *Petals* five or more. *Seeds* numerous.
21. HELLEBORUS. *Calyx* none. *Petals* five, permanent. *Nectaries* tubular. *Follicles* few.
22. CALTHA. *Calyx* none. *Petals* five or more. *Nectaries* none. *Follicles* from five to ten.
20. TROLLIUS. *Calyx* none. *Petals* five or more. *Nectaries* five or more, flattened. *Follicles* numerous.
18. FICARIA. *Calyx* three-leaved. *Petals* about ten, with a nectariferous scale at the base. *Seeds* numerous, naked.
19. RANUNCULUS. *Calyx* five-leaved. *Petals* five, with a nectariferous pore or scale at the base. *Seeds* numerous, naked.
17. ADONIS. *Calyx* five-leaved. *Petals* from five to ten. *Nectary* one. *Seeds* numerous, naked.

## POLYANDRIA.—MONOGYNIA.

## 1. ACTÆA. BANE BERRY.

Calyx inferior, of four circular, obtuse, caducous leaves. Petals four, oblong, clawed, deciduous. Filaments about thirty, hair-like, broader, towards the top; anthers roundish, two-lobed. Germen egg-shaped. Style none; stigma thickish, obliquely depressed. Berry globular, smooth, with a lateral furrow, one-celled, not bursting. Seeds numerous, half-globular, arranged in two rows.—Named from *acte*, the elder, the leaves resembling those of that tree. 258.

1. *A. spicata*. Herb Christopher. Bane Berry. Cluster egg-shaped; petals as long as the stamens.—Root creeping; stem triangular, from one to two feet high, slightly branched, leafy, smooth: leaves twice or thrice ternate: leaflets egg-shaped, acutely serrate, deep-green: flowers in a close cluster, with white petals: berries purplish-black, poisonous. The fetid odour of this plant is said to attract toads to it. Perennial: flowers in May and June: grows in woods and shady places, in Yorkshire: rare. Eng. Bot. vol. xiii. pl. 918. Eng. Fl. vol. iii. p. 3. 792.

## 2. CHELIDONIUM. CELANDINE.

Calyx inferior, of two roundish caducous leaves. Petals four, equal, roundish, flat, narrower at the base. Filaments about thirty, flat, broader upwards, shorter than the corolla; anthers oblong, compressed, erect, two-lobed. Germen cylindrical, as long as the stamens. Style none; stigma small, obtuse, cleft. Pod linear, one-celled, with two undulated deciduous valves. Seeds numerous, oval, dotted, arranged in two rows along a linear receptacle at each side of the pod.—Named from *chelidon*, a swallow. 259.

1. *C. majus*. Common Celandine.—Root tapering: stem about two feet high, branched, enlarged at the joints, round, smooth, leafy: leaves deeply pinnatifid, smooth: flowers in umbels, on long stalks: calyx tawny: petals yellow: seeds black and shining. The juice of every part of the plant is yellow and acrid. It removes warts, and is said to cure the itch. Perennial: flowers in May and June: grows in thickets and waste ground, generally near houses: frequent. Eng. Bot. vol. xxii. pl. 1581. Eng. Fl. vol. iii. p. 4. 793.

## 3. GLAUCIUM. HORNED POPPY.

Calyx inferior, of two oblong, acute, caducous leaves. Petals four, much larger than the calyx, roundish, crumpled, spreading, deciduous, two opposite ones rather smaller. Filaments numerous, hair-like, shorter than the corolla; anthers roundish, two-lobed. Germen superior, cylindrical, longer than the stamens. Style none; stigma large, of two or three cleft, compressed downy lobes. Pod linear, very long, of two or three linear valves and as many cells. Seeds numerous, convex on the outer side, disposed irregular, in two rows in each cell, along linear receptacles placed between the valves.—Named from the *glaucous* bloom which all the parts have. 260.

1. *G. luteum*. *Yellow Horned Poppy*. Stem smooth; stem-leaves embracing, waved; pod roughish, with minute tubercles.—Root tapering: stem from one to two feet high: the whole plant glaucous: root-leaves numerous, stalked, pinnatifid, hairy: flowers large, with bright-yellow petals: pod nearly a foot long, curved. Biennial: flowers in July and August: grows on the sea-coast: frequent. *Eng. Bot.* vol. i. pl. 8: *Chelidonium glaucium*. *Eng. Fl.* vol. iii. p. 6. 794.

2. *G. phœniceum*. *Scarlet Horned Poppy*. Stem hairy; stem-leaves pinnatifid, cut; pod rough, with erect bristles.—Root tapering: the whole plant glaucous: stem branched, erect: leaves all oblong, pinnatifid, hairy: calyx very hairy: petals scarlet, with a black spot at the base. Annual: flowers in June and July: grows on the sea-coast: very rare, if now to be found. *Eng. Bot.* vol. xx. pl. 1438. *Eng. Fl.* vol. iii. p. 7. 795.

3. *G. violaceum*. *Violet Horned Poppy*. Stem smooth; leaves doubly pinnatifid, linear, smooth; pod three-valved and three-celled.—Root slender: stem erect, about a foot high, branched, smooth: lower leaves stalked, upper sessile: petals violet-blue, large: pod two or three inches long. Annual: flowers in May and June: grows in corn-fields, in Norfolk and Cambridgeshire: rare. *Eng. Bot.* pl. 201. *Eng. Fl.* vol. iii. p. 7. 796.

#### 4. PAPA'VER. POPPY.

Calyx of two egg-shaped, obtuse, equal, caducous leaves. Corolla of four circular, flat petals, two opposite ones of which are smaller. Filaments very numerous, hair-like, much shorter than the corolla; anthers oblong, compressed, obtuse. Germen globular or oblong, large. Style none; stigma shield-shaped, flat, radiated. Capsule egg-shaped or oblong, leathery, large, one-celled, partially divided by marginal partitions. Seeds kidney-shaped, very numerous, small, attached to the partitions.—Name said to be derived from the Celtic *papa*, signifying pap. 261.

##### \* Capsules bristly.

1. *P. hybridum*. *Round Rough-headed Poppy*. Capsule nearly globular, furrowed, bristly; calyx hairy; stem leafy, many-flowered; leaves doubly pinnatifid.—Stem twelve or eighteen inches high, covered with minute bristles: leaves with numerous, narrow segments, each tipped with a minute bristle: flowers rather small, with scarlet petals, frequently purple at the base. Annual: flowers in July: grows in sandy fields, in England and Ireland: rare. *Eng. Bot.* vol. i. pl. 43. *Eng. Fl.* vol. iii. p. 9. 797.

2. *P. Argemone*. *Long Rough-headed Poppy*. Capsule club-shaped, ribbed, bristly; calyx slightly hairy; stem leafy, many-flowered; leaves doubly pinnatifid.—Stem from one to two feet high, hairy: leaves with narrow segments: flowers with pale-scarlet petals, blackish at the base. Annual: flowers in June and July: grows in corn-fields: not uncommon. *Eng. Bot.* vol. ix. pl. 643. *Eng. Fl.* vol. iii. p. 10. 798.

##### \*\* Capsules smooth.

3. *P. dubium*. *Long Smooth-headed Poppy*. Capsule oblong, angular, smooth; stem many-flowered, hairy; bristles of the



flower-stalks close-pressed; leaves doubly pinnatifid.—Stems from one to two feet high, with spreading bristly hairs: petals light-scarlet: capsule abruptly oblong. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. ix. pl. 644. *Eng. Fl.* vol. iii. p. 10. 799.

4. *P. Rhæas.* *Common Red Poppy.* Capsule nearly globular, smooth; stem many-flowered, bristly; bristles of the flower-stalks spreading; leaves pinnatifid, cut.—Stems from one to two feet high, with spreading bristles: petals large, undulated, rich, scarlet, sometimes purple at the base. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. ix. pl. 645. *Eng. Fl.* vol. iii. p. 11. 800.

5. *P. somniferum.* *White Poppy.* Capsule nearly globular, smooth; stem many-flowered, smooth; leaves clasping the stem, notched, glaucous.—Stem three or four feet high, erect: leaves broad, waved, lobed, heart-shaped at the base: flowers large, with bluish-white petals, having a broad purple spot at the base. Opium is the inspissated milky juice of this species, obtained by making incisions in the capsule. The seeds are destitute of narcotic quality, and may be eaten. All the species of this genus yields a similar milky juice. Annual: flowers in July: grows in fields and waste places: frequent. Naturalized, but has been found in a few places apparently wild. *Eng. Bot.* vol. xxx. pl. 2145. *Eng. Fl.* vol. iii. p. 11. 801.

6. *P. Cæmbricum.* *Yellow Poppy.* Capsule oblong, smooth; stem many-flowered, nearly smooth; leaves pinnated, cut, stalked.—Stem a foot high, generally with scattered erect hairs: flowers large, with lemon-coloured petals. Perennial: flowers in June: grows in moist rocky places, in Wales, and the north of England, as well as in a few places in Scotland and Ireland. *Eng. Bot.* vol. i. pl. 66. *Eng. Fl.* vol. iii. p. 12. 802.

#### 5. NYMPHÆA. WHITE WATER-LILY.

Calyx inferior, of four large, oblong, tough, permanent leaves, coloured on their upper surface. Petals numerous, oblong, placed in several rows upon the base of the germen. Nectary globular, in the centre of the stigma. Filaments very numerous, flat, placed on the germen, the lower gradually more dilated; anthers linear, two-celled. Germen sessile, globular. Style none; stigma circular, of numerous rays, which are pointed and separate at the end. Berry hard, globular, many-celled. Seeds numerous, roundish.—Named from its inhabiting waters, as the *nymphs* were fabled to do. 262.

1. *N. alba.* *White Water-lily.* Leaves heart-shaped, entire: petals oblong; rays of the stigma sixteen, recurved.—Root tuberous, horizontal: leaves floating, nearly circular, heart-shaped, smooth: stalks of the leaves and flowers cylindrical: flowers about four inches in diameter, floating when expanded: calyx-leaves white above: petals white. This, in respect to beauty, is the queen of British flowers. Its large tuberous roots are collected by the Hebridiens, who from a decoction of them, mixed with copperas, obtain a black colour for dyeing wool and yarn. Perennial: flowers in July: grows in pools, lakes, and slow rivers: frequent. *Eng. Bot.* vol. iii. pl. 160. *Eng. Fl.* vol. iii. p. 14. 803.

## 6. NUPHAR. YELLOW WATER-LILY.

Calyx inferior, of five or six large, oblong, tough, permanent leaves; petals numerous, oblong, much smaller than the calyx, placed upon the receptacle, furrowed and nectariferous at the back. Filaments very numerous, linear, recurved; anthers linear, two-celled. Germen nearly sessile, egg-shaped. Style none; stigma circular, convex, entire or notched, with many central, radiating clefts. Berry hard, egg-shaped, pointed, many-celled. • Seeds numerous, egg-shaped.—Name used by Dioscorides. 263.

1. *N. lutea*. *Yellow Water-lily*. Calyx five-leaved; edge of the stigma entire; leaf-stalks two-edged; lobes of the leaves meeting.—Leaves broadly heart-shaped, roundish at the end, basal lobes meeting and often overlapping each other: flower-stalks nearly cylindrical: flowers about two inches in diameter, of a golden-yellow colour. This is one of the most beautiful of our native plants. Its flowers have a strong smell resembling that of brandy, or rather some kinds of wine. Perennial: flowers in July: grows in rivers and pools: common in England; rare in the north of Scotland, where the *Nymphaea alba* is peculiarly abundant. *Eng. Bot.* vol. ii. pl. 159. *Eng. Fl.* vol. iii. p. 15. 804.

2. *N. pumila*. *Least Yellow Water-lily*. Calyx five-leaved; edge of the stigma toothed; leaf-stalks two-edged: lobes of the leaves rather distant.—Leaves heart-shaped, somewhat angular, the basal lobes not meeting: flowers hardly more than an inch in diameter, pale-yellow, tinged with green. It does not differ more from *N. lutea*, than very small specimens of *Nymphaea alba* differ from those of a large size. Perennial: flowers in July: grows in lakes: Foot of Cruachan in Argyllshire; Loch Baladren at Avicmore; Loch of Monteith; Loch Lubnaig; near Callander, &c. *Eng. Bot.* vol. xxxii. pl. 2292: *N. minima*. *Eng. Fl.* vol. iii. p. 16. 805.

## 7. TILIA. LIME-TREE.

Calyx inferior, deeply divided into five equal, coloured, deciduous segments. Petals five, inversely egg-shaped, obtuse, somewhat notched, in some species having a small scale on the inner surface at the base. Filaments numerous, thread-like, as long as the petals; anthers of two round lobes. Germen roundish. Style thread-shaped, erect, nearly as long as the stamens; stigma with five obtuse corners. Capsule roundish, more or less angular, leathery, five-celled. Seeds one or two in each cell, often abortive, excepting one.—Name doubtful. 264.

1. *T. Europæa*. *Common Lime-tree*. *Linden-tree*. Flowers without nectaries; leaves heart-shaped at the base, serrated, pointed, smooth, except a woolly tuft at the origin of each vein beneath; cymes many-flowered; capsule leathery, hairy.—A large and handsome tree, with smooth, spreading branches: leaves unequal and entire at the base: stipules oval, smooth, in pairs at the base of each foot-stalk: flower-stalks axillar, cymose, each bearing an oblong, pale, smooth bractea, united for half its length with the stalk: flowers greenish, scented: germen hairy. Linnaeus is said to have

derived his family name from a large tree of this species, the Swedish name of which is *Lin*. Probably naturalized: flowers in July. *Eng. Bot.* vol. ix. pl. 610. *Eng. Fl.* vol. iii. p. 17. 806.

2. *T. grandifolia*. *Broad-leaved Lime-tree*. Flowers without nectaries; leaves roundish, heart-shaped, pointed, serrated, downy, especially beneath, with hairy tufts at the origin of the veins; umbels three-flowered; capsule turbinate, downy. — Flowers in August: found in woods and hedges, but, like the other two species, probably not indigenous. *Eng. Fl.* vol. iii. p. 18. 807.

3. *T. parvifolia*. *Small-leaved Lime-tree*. Flowers without nectaries; leaves roundish, heart-shaped, serrated, pointed, glaucous beneath, with hairy tufts at the origin of the veins, and scattered hairy blotches; capsule roundish, nearly smooth. — A handsome tree, distinguished from the former by its much smaller leaves and flowers: germen densely woolly: flowers in August: grows in woods in Essex, Sussex, &c.: frequent. *Eng. Bot.* vol. xxiv. pl. 1705. *Eng. Fl.* vol. iii. p. 21. 808.

### 8. HELIANTHEMUM. ROCK-ROSE.

Calyx inferior, of five unequal, permanent leaves, the two outermost smaller. Petals five, much larger than the calyx, equal, spreading, roundish. Filaments numerous, hair-like, shorter than the corolla; anthers small, oval. Germen superior, nearly globular. Style simple; stigma knobbed. Capsule angular, celled, covered by the closed, permanent calyx. Seeds numerous, small, angular. — Name from *helios*, the sun, and *anthos*, a flower. 265.

\* *Stem woody; no stipules.*

1. *H. cœnum*. *Hoary Dwarf Rock-rose*. Stems decumbent; leaves opposite, stalked, hoary beneath. — Root woody: stems branched at the base, each branch ascending and terminating in three or four corymbose flowers: leaves egg-shaped, acute, covered on both sides with close hairs: calyx hairy: petals inversely egg-shaped, bright-yellow. Perennial: flowers in May and June: grows on elevated rocks and in mountainous pastures, in Wales and the north of England: rare. *Eng. Bot.* vol. vi. pl. 396. *Cistus marifolius*. *Eng. Fl.* vol. iii. p. 23. 809.

\*\* *Stem herbaceous, without stipules.*

2. *H. guttatum*. *Spotted Annual Rock-rose*. Stem erect, herbaceous; stipules and bractees none; leaves opposite, lance-shaped, three-ribbed. — Stem about six inches high, slightly branched: one or more simple, erect, terminal clusters: petals yellow, with a red spot at the base. Annual: flowers in June and July: grows in sandy pastures, in Jersey and Anglesea: very rare. *Eng. Bot.* vol. viii. pl. 544. *Eng. Fl.* vol. iii. p. 24. 810.

\*\*\* *Stem woody, with stipules.*

3. *H. vulgare*. *Common Rock-rose*. Stems shrubby, procumbent, with fringed stipules; leaves oblong, white, and downy beneath; calyx smooth with bristly ribs, its outer leaves lance-shaped, fringed. — Stems numerous, round, downy, simple, terminating in a cluster of flowers: stipules lance-shaped, green on both sides, petals pale-yellow. A shrub: flowers in July and August: grows in hilly pastures on gravelly soil. *Eng. Bot.* vol. xix. pl. 1321. *Eng. Fl.* vol. iii. 811.

p. 26. The *H. surrejanum*, *Eng. Bot.* pl. 2207, *Eng. Fl.* vol. iii. p. 25, is a monstrous variety of this plant, with lance-shaped petals.

811.

4. *H. polifolium*. *White Mountain Rock-rose*. Stem shrubby, procumbent, with somewhat hairy stipules; leaves oblong, revolute, white beneath with starry hairs; calyx slightly hairy, its outer leaves fringed.—Stems hoary, with close-pressed hairs: leaves convex and green above with starry hairs, beneath white and densely downy with similar hairs: stipules narrow lance-shaped, acute, hairy: calyx with a few hairs on the ribs: petals white, with yellow claws. A shrub: flowers in June and July: grows on Brent Downs, Somersetshire, and near Newton Abbot in Devonshire. *Eng. Bot.* pl. 1322. *Eng. Fl.* vol. iii. p. 27.

812.

## PENTAGYNIA.

### 9. PÆONIA. PÆONY.

Calyx inferior, of five roundish, reflected, unequal, permanent leaves. Petals five, roundish, spreading, larger than the calyx. Filaments very numerous, hair-like, much shorter than the corolla; anthers oblong, four-cornered, four-celled. Germens egg-shaped, sessile, downy. Styles none; stigmas oblong, curved, compressed, obtuse. Follicles oblong, leathery. Seeds numerous, oval, arranged along the edges of the follicle.—Named in honour of the physician *Pæon*. 266.

1. *P. corallina*. *Entire-leaved Paony*. Leaves twice ternate; leaflets egg-shaped, undivided, smooth; follicles downy, recurved.—Root knobbed: stems simple, round, smooth, about two feet high: leaves smooth: flowers about four inches broad, with crimson petals. Perennial: flowers in May and June: grows on islands in the Severn, but is not truly wild. *Eng. Bot.* vol. xxii. pl. 1513. *Eng. Fl.* vol. iii. p. 29.

813.

### 10. DELPHINIUM. LARKSPUR.

Calyx none. Petals five, inferior, unequal, spreading; the upper one extended into a long tubular spur; the rest oblong, with claws. Nectary divided, of one or two sessile leaves, placed within the petals, on the upper side, extended behind into a tube, which is contained in the spur of the uppermost petal. Filaments numerous, awl-shaped, dilated at the base, much shorter than the corolla; anthers roundish, small, erect. Germen superior, from one to five. Styles terminal, shorter than the stamens; stigmas simple, reflected. Follicles oblong, one-valved. Seeds numerous, angular, rough, arranged along the edges of the follicle.—Name, from *delphin*, a dolphin.

267.

1. *D. Consolida*. *Field Larkspur*. Capsule single; nectary of one leaf; stem undivided.—Stem nearly two feet high, erect, leafy, branched: leaves sessile, divided to the base into three or five parts, each cut into linear segments, often forked at the end: clusters terminal, loose, few-flowered: petals deep-blue in front, pale behind. The juice of the petals is said to make a good blue ink. An-

nual : flowers in June and July : grows in corn-fields in England : rare : Cambridge, Suffolk, Kent. *Eng. Bot.* vol. xxvi. pl. 1839. *Eng. Fl.* vol. iii. p. 30. 814.

#### 11. ACONITUM. MONK'S-HOOD.

Calyx none. Petals five, inferior, unequal, four of them in pairs, opposite ; the upper one hooded, or tubular, inverted, the convex part being uppermost, the deflected point recurved ; two lateral ones roundish, opposite, converging ; two lowermost oblong, deflected. Nectaries two, within the hollow of the upper petal, on long, awl-shaped stalks, tubular, oblique at the orifice. Filaments numerous, broad at the base, awl-shaped, short ; anthers roundish, erect. Germen superior, from three to five, oblong. Styles terminal, awl-shaped, spreading ; stigmas simple, acute. Follicles straight, oblong, one-valved. Seeds numerous, angular, arranged at the edges of the capsule.—Name doubtful. 268.

1. *A. Napellus*. Common Wolf's-bane, or Monk's-hood. Upper petal arched at the back ; lateral ones hairy at the inner side ; germen three, smooth ; leaves deeply five-cleft, cut, with linear segments, furrowed above.—Stem erect, leafy, simple, terminating in a cluster of dark-blue flowers. Perennial : flowers in June and July : found in several places in England, but is not truly native. *Eng. Fl.* vol. iii. p. 31. 815.

#### 12. AQUILEGIA. COLUMBINE.

Calyx none, petals five, inferior, egg-shaped, equal, spreading. Nectaries five, equal, alternate with the petals, tubular, dilated upwards, oblique at the mouth, the outer margin ascending, the inner attached to the receptacle ; their lower portion extended into a long tapering spur, obtuse at the end. Filaments from thirty to forty, awl-shaped, the outer shorter, the inner abortive, dilated, clasping the germen ; anthers heart-shaped, erect. Germen five, superior, oblong, each tapering into an awl-shaped, erect style ; stigmas simple. Follicles five, cylindrical, pointed, straight, one-valved. Seeds numerous, egg-shaped, smooth, arranged along the edges of the follicle.—Name, from *aquila*, an eagle. 269.

1. *A. vulgaris*. Common Columbine. Nectaries about the length of the petals, their spur incurved ; leaves and stem smooth ; capsules hairy.—Root tuberous : stem erect, two or three feet high, round, generally branched, and bearing several flowers : root-leaves twice ternate, on long stalks : stem-leaves ternate, nearly sessile : flowers pendulous, purple. Perennial : flowers in June : grows in meadows, pastures and thickets : frequent, but seldom wild. *Eng. Bot.* vol. v. pl. 297. *Eng. Fl.* vol. iii. p. 33. 816.

#### 13. STRATIOTES. WATER-SOLDIER.

Calyx superior, of one leaf, tubular, erect, with three deep marginal segments. Petals three, twice as long as the calyx, inversely egg-shaped. Filaments about twenty, thread-like, shorter than the calyx ; anthers awl-shaped, erect. Germen elliptical, obtuse, three-cornered. Styles six, deeply cleft, as long as the stamens ; stigmas simple. Berry egg-shaped, six-

cornered, six-celled, tapering at both ends. Seeds numerous, inversely egg-shaped.—Named from *stratos*, an army. 270.

1. *S. aloides*. *Water-soldier*. Leaves sword-shaped, channelled, with a prominent rib, and sharp marginal prickles.—Leaves half a foot long or more: scape from four to six inches long, compressed, two-edged: flowers white, large. Perennial: flowers in July: grows in ditches and pools: Isle of Ely, Lincolnshire, Norfolk, Cheshire, and Yorkshire. *Eng. Bot.* vol. vi. pl. 379. *Eng. Fl.* vol. iii. p. 34. 817.

## POLYGYNIA.

### 14. ANEMONE. ANEMONE.

Calyx none. Petals from five to fifteen, oblong, inferior, regular, in one or more rows. Filaments numerous, hair-like, much shorter than the corolla; anthers two-lobed. GERMENS superior, numerous, collected into a roundish head. Styles tapering, short; stigmas simple, bluntish. Seeds numerous, pointed, tipped with the permanent styles.—Name, from *anemos*, the wind. 271.

1. *A. Pulsatilla*. *Pasque-flower*. Leaves doubly pinnate; petals six, erect; seeds with feathery tails.—Stalks four or five inches high, with an involucre of many deep, linear segments, all united at the base, and a single flower, with dull violet petals, externally silky. Perennial: flowers in April and May: grows in elevated open pastures, in England. *Eng. Bot.* vol. i. pl. 51. *Eng. Fl.* vol. iii. p. 36. 818.

2. *A. nemorosa*. *Wood Anemone*. Leaves ternate or quinate; petals six, spreading; seeds pointed, without tails.—Stalk about a foot high, with an involucre of three ternate or quinate leaves, and a single flower, with white petals, externally purplish. Perennial: flowers in April and May: grows in woods and thickets, sometimes on open heaths: common. *Eng. Bot.* vol. v. pl. 355. *Eng. Fl.* vol. iii. p. 36. 819.

3. *A. Appenina*. *Blue Mountain Anemone*. Leaves thrice ternate, petals numerous, lance-shaped; seeds pointed, without tails.—Stalk about a foot high, above the involucre silky, with a single flower of a bright-blue colour. Perennial: flowers in April: grows in Wimbleton woods and several other places in the south of England: rare, and perhaps introduced. *Eng. Bot.* vol. xv. pl. 1062. *Eng. Fl.* vol. iii. p. 37. 820.

4. *A. ranunculoides*. *Yellow Wood Anemone*. Leaves ternate or quinate; petals five, lance-shaped; seeds pointed, without tails.—Stalk about a foot high, with one, sometimes two flowers of a bright-yellow colour. Perennial: flowers in April: found by Hudson in a wood at King's Langley, Herts, and at Wrotham, Kent. *Eng. Bot.* vol. xxi. pl. 1484. *Eng. Fl.* vol. iii. p. 38. 821.

### 15. CLEMATIS. CLEMATIS.

Calyx none. Petals from four to eight, inferior, regular, oblong. Filaments numerous, enlarged upwards; anthers oblong, two-lobed. GERMENS superior, sessile, egg-shaped, collected

into a round head. Styles terminal, much longer than the germens; stigmas simple. Seeds numerous, egg-shaped, compressed, tipped with the permanent styles, converted into feathery tails.—Name, from *clema*, a vine shoot. 272.

1. *C. Vitalba*. *Common Traveller's Joy*. Leaves pinnate, with heart-shaped leaflets; leaf-stalks twining; panicles forked, not longer than the leaves.—Stems woody, angular, climbing; panicles axillar and terminal, many-flowered: flowers white, scented: petals four, externally downy: seeds with a long, feathery, and silky tail. A shrub: flowers in July: grows in hedges: common in England; rare in Scotland. *Eng. Bot.* vol. ix. pl. 612. *Eng. Fl.* vol. iii. p. 39. 822.

#### 16. THALICTRUM. MEADOW-RUE.

Calyx none. Petals four or five, inferior, roundish, obtuse, deciduous. Filaments numerous, hair-like, somewhat enlarged at the upper part; anthers terminal, oblong, drooping. Germens several, superior, egg-shaped, striated. Styles none; stigmas egg-shaped, downy. Seeds as many as the germens, egg-shaped, furrowed or winged, without terminal appendage.—Named from *thallo*, to be green. 273.

1. *Th. alpinum*. *Alpine Meadow-rue*. Stem unbranched, almost naked, with a simple, terminal cluster.—Stem from three to six inches high: leaves chiefly radical, twice ternate, with wedge-shaped leaflets: flowers drooping: petals four, whitish, acute. Perennial: flowers in June: grows on high mountains in Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. iv. pl. 262. *Eng. Fl.* vol. iii. p. 40. 823.

2. *Th. minus*. *Less Meadow-rue*. Leaves thrice pinnate, with three cleft leaflets, glaucous on both sides; flowers panicled, pendulous.—Root creeping: stem from six to eighteen inches high, somewhat angular: leaflets generally wedge-shaped: panicles compound, spreading, with a few ternate leaves at the base: bractæas small, lance-shaped: petals four, pale-purple, with whitish edges. Perennial: flowers in June and July: grows in dry pastures, particularly abundant in all the sandy maritime pastures of the Hebrides. *Eng. Bot.* vol. i. pl. 11. *Eng. Fl.* vol. iii. p. 41. A large variety is the *Th. majus*, *Greater Meadow-rue*, of many botanists. *Eng. Bot.* vol. ix. pl. 611. *Eng. Fl.* vol. iii. p. 172. 824.

3. *Th. flavum*. *Common Meadow-rue*. Leaves twice pinnate, with wedge-shaped, three-cleft leaflets; panicle compound, close, corymbose; flowers erect.—Root fibrous: stem three or four feet high, branched, hollow, deeply furrowed and angular: panicle dense, of very numerous erect flowers: petals four, cream-coloured. Perennial: flowers in June and July: grows in wet meadows, and near rivers and ditches: rare in Scotland. *Eng. Bot.* vol. vi. pl. 367. *Eng. Fl.* vol. iii. p. 42. 825.

#### 17. ADO'NIS. ADONIS.

Calyx inferior, of five converging, obtuse, deciduous leaves. Petals from five to fifteen, oblong, obtuse, shining, without nectaries on the claws. Filaments numerous, awl-shaped, very short;

anthers oblong, two-lobed, incurved. Germens very numerous, incurved, collected into a round head. Styles none; stigmas acute, spreading. Seeds numerous, angular, acute, without an appendage. Receptacle cylindrical.—Named after *Adonis*.

274.

1. *A. autumnalis*. *Adonis-flower*. *Pheasant's-eye*. Petals about eight, inversely heart-shaped; fruit egg-shaped; stem branched. —Root tapering: stem erect, branched, striated, leafy: leaves alternate, sessile, thrice pinnatifid, with linear, acute segments: petals deep shining crimson. Annual: flowers from May to October: grows in corn-fields: rare. ● *Eng. Bot.* vol. v. pl. 308. *Eng. Fl.* vol. iii. p. 43.

826.

## 18. FICARIA. PILEWORT.

Calyx inferior, of three, egg-shaped, deciduous leaves. Petals about ten, oblong, polished. Nectary a pore at the base of each petal, covered by a scale. Filaments numerous, slender, much shorter than the petals; anthers elliptical, erect, two-celled. Germens superior, numerous, collected into a round head. Styles none; stigmas small. Seeds egg-shaped, tipped with a point.—Named from *ficus*, a fig, on account of the shape of the tubers.

275.

1. *F. verna*. *Pilewort*. *Lesser Celandine*.—Root of numerous oblong knobs, accompanied with fibres: stems from three to ten inches high, slightly branched, leafy: leaves alternate, stalked, heart-shaped, angular, smooth: foot-stalks longer than the leaves, two-celled, dilated, and sheathing at the base, where they generally contain one or two knobs similar to those of the root: flowers terminal, solitary: petals golden-yellow, shining. Perennial: flowers in March, April, and May: grows in shady places, and in meadows: common. *Eng. Bot.* vol. ix. pl. 584. *Ranunculus Ficaria*. *Eng. Fl.* vol. iii. p. 47.

827.

## 19. RANUNCULUS. CROWFOOT.

Calyx inferior, of five egg-shaped, deciduous leaves. Petals five, roundish, shining. Nectary a pore at the base of each petal, generally covered by a scale. Filaments numerous, thread-like, much shorter than the petals; anthers linear, or heart-shaped, erect, two-celled. Germens numerous, collected into a round head. Styles none; stigmas small. Seeds numerous, egg-shaped, tipped with a point or hook.—Named from *rana*, a frog, some of the species being aquatic.

276.

\* *Leaves simple.*

1. *R. Lingua*. *Greater Spear-wort*. Leaves lance-shaped, pointed, nearly sessile, somewhat serrate; stem erect, many-flowered; root fibrous; seeds smooth.—Stem about three feet high, with close-pressed hairs: calyx hairy: petals bright-yellow: nectary covered by a small scale. Perennial: flowers in July and August: grows in ditches and at the edges of lakes and pools: not common. *Eng. Bot.* vol. ii. pl. 100. *Eng. Fl.* vol. iii. p. 46.

828.

2. *R. Flammula*. *Less Spear-wort*. Leaves between lance-shaped and linear, with a thickened tip, nearly entire, stalked; stem decumbent at the base; root fibrous; seeds smooth.—Stem



from six to eighteen inches long, sometimes entirely decumbent, slightly branched, leafy: leaves alternate, the lower ones sometimes broad: petals gold-yellow: nectaries minute. This plant is extremely acrid, and is used in the Hebrides for raising blisters. Chopped small and infused in water, it is also employed there as a purgative for calves. Dr. Withering recommends the distilled water as an instantaneous emetic in cases of poisoning. In alpine situations it becomes creeping. Perennial: flowers from June to September: grows in watery places: common. *Eng. Bot.* vol. vi. pl. 387. *Eng. Fl.* vol. iii. p. 45. 829.

\*\* *Leaves divided.*

3. *R. auricomus*. *Goldilocks*. *Wood Crowfoot*. Root-leaves kidney-shaped, crenate, three-cleft; stem-leaves fingered, with linear segments; stem many-flowered; calyx coloured.—Root fibrous: stem about a foot high, erect, branched: leaves more or less downy: flowers terminal, solitary, gold-yellow: calyx hairy, pale-yellow: nectary a naked pore. Perennial: flowers in April and May: grows in woods and bushy places: frequent. *Eng. Bot.* vol. ix. pl. 624. *Eng. Fl.* vol. iii. p. 47. 830.

4. *R. scelerdtus*. *Celery-leaved Crowfoot*. Stem erect, hollow, much branched; leaves smooth, lower ones palmate, upper fingered; fruit oblong; seeds very numerous, minute.—Root fibrous: stem from six inches to two feet high, smooth, round, hollow, leafy: lower leaves stalked, upper sessile, uppermost undivided: flowers small, pale-yellow, numerous: calyx hairy, reflected: nectary somewhat tubular. This species is extremely acrid, and blisters the skin. It is said to be used by strolling beggars to produce artificial sores. Annual: flowers from June to September: grows in watery places: common. *Eng. Bot.* vol. x. pl. 681. *Eng. Fl.* vol. iii. p. 48. 831.

5. *R. bulbosus*. *Bulbous Crowfoot*. *Butter-cups*. Calyx reflected; flower-stalks furrowed; stem erect, many-flowered; leaves compound; root bulbous; seeds smooth.—Root a solid round bulb: stem about a foot high, hairy: lower leaves compound, their leaflets cut or lobed: flowers terminal, solitary: calyx-leaves egg-shaped, hairy: petals gold-yellow: nectary covered by a scale. Perennial: flowers in May: grows in pastures and meadows: common. *Eng. Bot.* vol. viii. pl. 515. *Eng. Fl.* vol. iii. p. 49. 832.

6. *R. hirsutus*. *Pale Hairy Crowfoot*. Calyx reflected, pointed; stem erect, many-flowered, hairy; leaves ternate; root fibrous; seeds tuberculated.—Stem from three inches to a foot high: flower-stalks furrowed, hairy: calyx hairy, reflected: petals gold-yellow: nectary covered by a scale. Annual: flowers from June to October: grows in moist meadows and waste ground: not common. *Eng. Bot.* vol. xxi. pl. 1504. *Eng. Fl.* vol. iii. p. 50. 833.

7. *R. repens*. *Creeping Crowfoot*. Calyx spreading; flower-stalks furrowed; runners creeping; leaves compound, erect, the uppermost entire.—Stem erect or ascending, about a foot high, hairy: leaves twice ternate: flowers gold-yellow: nectary covered by a notched scale. Perennial: flowers in the summer months: grows in rich soil, by walls, and in shady places: common. *Eng. Bot.* vol. viii. pl. 516. *Eng. Fl.* vol. iii. p. 51. 834.

8. *R. crispis*. *Upright Meadow Crowfoot*. Calyx spreading; flower-stalks round; leaves tripartite, their segments three-cleft

and cut, those of the uppermost linear and entire; stem erect covered with close-pressed hairs.—Stem two feet high, many-flowered: calyx hairy: petals bright-yellow: nectary covered by a scale. Perennial: flowers in June and July: grows in meadows and pastures: common. *Eng. Bot.* vol. x. pl. 652. *Eng. Fl.* vol. iii. p. 51. 835.

9. *R. urvensis*. *Corn Crowfoot*. Calyx spreading; stem erect, much branched, many-flowered; leaves once or twice deeply three-cleft, with narrow lance-shaped segments.—Leaves alternate: flowers small, with a hairy calyx, and pale-yellow petals: seed-vessels large and prickly. This plant is exceedingly acrid, and is said to be very dangerous to cattle. Annual: flowers in June: grows in corn-fields: not common. *Eng. Bot.* vol. ii. pl. 135. *Eng. Fl.* vol. iii. p. 52. 836.

10. *R. parviflorus*. *Small-flowered Crowfoot*. Leaves simple, hairy, sharply cut, the upper ones three-lobed; stem prostrate; seeds with hooked prickles.—Leaves roundish, acutely notched, the uppermost with three deep lance-shaped segments: flowers small: yellow. Annual: flowers in May and June: grows in fields and by hedges: rare. South of England, and near Dublin. *Eng. Bot.* vol. ii. pl. 120. *Eng. Fl.* vol. ii. p. 53. 837.

11. *R. alpestris*. *Alpine White Crowfoot*. Leaves simple, smooth; root-leaves somewhat heart-shaped, with three deep-lobed segments, those of the stem lance-shaped, entire; flower generally solitary; calyx smooth.—Stem three or four inches high, erect, generally simple and one-flowered: petals white: calyx reflected, pale. This species also is said to be extremely acrid. Perennial: flowers in May: grows by the sides of alpine rills, on the Clova mountains, where it was discovered by Mr. G. Don. *Eng. Bot.* vol. xxxiv. pl. 2390. *Eng. Fl.* vol. iii. p. 49. 838.

12. *R. hedéraceus*. *Ivy-leaved Crowfoot*. Stem creeping; leaves smooth, roundish, or kidney-shaped, with three or five rounded entire lobes; petals small; stamens from five to ten.—Stem creeping or floating: leaves stalked, dark-green. Perennial: flowers from May to August: grows in ditches and muddy places: common. *Eng. Bot.* vol. xxviii. pl. 2003. *Eng. Fl.* vol. iii. p. 54. 839.

13. *R. aquatilis*. *Water Crowfoot*. Immersed leaves in fine hair-like segments; floating-leaves three-lobed, bluntly crenate.—Stems branched, submersed: flowers on long stalks, rising a little out of the water: petals white, yellow at the base. Perennial: flowers in May and June: grows in ditches, ponds, and rivers: common. *Eng. Bot.* vol. ii. pl. 101. *Eng. Fl.* vol. iii. p. 54. 840.

## 20. TROLLIUS. GLOBE-FLOWER.

Calyx none. Petals inferior, from five to fifteen, roundish, deciduous. Nectaries numerous, linear, flattened, incurved, with a single lip, somewhat tubular at the base. Filaments numerous, bristle-shaped, shorter than the corolla; anthers linear, erect. Germen superior, numerous, sessile, columnar. Styles none; stigmas pointed, spreading, shorter than the stamens. Follicles cylindrical, pointed, recurved, collected into a round head. Seeds several, egg-shaped, smooth.—Name, from *troll*, a ball. 277.

1. *T. Europaëus*. *Mountain Globe-flower*. Petals about fifteen, converging into a globular form; nectaries from five to ten, as long as the stamens.—Stem nearly two feet high, round, hollow, branched at the top: leaves cut into five deep segments, which are themselves divided, the root-leaves on long stalks. Flower globular, bright-yellow. Perennial: flowers in May and June: grows in shady, mountainous situations: not common. *Eng. Bot.* vol. i. pl. 28. *Eng. Fl.* vol. iii. p. 56. 841.

## 21. HELLEBORUS. HELLEBORE.

Calyx none. Petals five, inferior, roundish, permanent. Nectaries numerous, very short, in a circle within the petals, consisting of one leaf, tubular, narrowest beneath, with two erect, unequal lips at the orifice. Filaments very numerous, awl-shaped; anthers roundish, two-celled. Germens superior, from three to ten, egg-shaped, compressed, erect. Styles awl-shaped; stigmas roundish. Follicles egg-shaped, compressed, leathery. Seeds several, oval, in two rows at the edges of the follicle.—Named from *helem*, to injure, and *bora*, food. 278.

1. *H. viridis*. *Green Hellebore*. Stem many-flowered, leafy, leaves fingered; petals spreading.—Stem erect, round, a foot and a half high, forked: flowers few, terminal and axillar, green. Fetid and acrid. Perennial: flowers in April and May: grows in woods and thickets: rare. *Eng. Bot.* vol. iii. pl. 200. *Eng. Fl.* vol. iii. p. 57. 842.

2. *H. fœtidus*. *Stinking Hellebore*. Stem many-flowered, leafy; leaves pedate; petals converging.—Stem two feet high, branched: flowers numerous, panicle, drooping, green, tinged with purple. Fetid, acrid, and violently purgative. Perennial: flowers in March and April: grows in thickets and waste ground: rare, and like the preceding, never truly wild. *Eng. Bot.* vol. ix. pl. 613. *Eng. Fl.* vol. iii. p. 58. 843.

## 22. CALTHA. MARSH MARIGOLD.

Calyx none. Petals five or more, inferior, egg-shaped, spreading. Nectaries none. Filaments numerous, thread-shaped, shorter than the petals; anthers oblong, two-lobed, erect. Germens superior, from five to ten, oblong, compressed, erect. Styles none; stigmas obtuse. Follicles cylindrical, pointed, two-edged. Seeds numerous, oval, arranged along the edges of the follicle.—Named from *calathos*, a cup. 279.

1. *C. palustris*. *Common Marsh Marigold*. Stem erect; leaves heart-shaped, rounded.—Root large: stem about a foot high, hollow, round, branched: lower leaves stalked, upper sessile: petals five, roundish, bright-yellow. Perennial: flowers in May and June: grows in marshy places, and about the edges of rivers and lakes. Slightly acrid, sometimes eaten by cattle. *Eng. Bot.* vol. viii. pl. 506. *Eng. Fl.* vol. iii. p. 59. A variety, with somewhat triangular acutely crenate leaves, and a creeping stem, is by some made a species under the name of *C. radicans*. *Eng. Bot.* vol. xxi. pl. 2175. *Eng. Fl.* vol. iii. p. 60. 841.

## CLASS XIV. DIDYNAMIA.

*Plants bearing Flowers with Four Stamens, of which the two outer are longer. •*

Order I. GYMNOSPERMIA. *Seeds naked, never more than four.*

\* *Calyx with five segments, nearly regular.*

14. LEONURUS. *Anthers sprinkled with hard dots. Upper lip of the Corolla very hairy.*
6. GLECHOMA. *Anthers approaching each other in pairs, and forming a cross. Upper lip of the Corolla cleft.*
5. MENTHA. *Filaments straight, spreading widely. Corolla nearly regular, four-lobed.*
2. TEUCRIUM. *Upper lip of the Corolla very deeply cut into two remote lobes.*
1. AJUGA. *Upper lip of the Corolla minute, notched.*
10. BETONICA. *Upper lip of the Corolla nearly flat, ascending; the tube cylindrical, incurved. Stamens not longer than the throat.*
7. LAMIUM. *Upper lip of the Corolla vaulted, entire; lower two-lobed, with a tooth on each side of the throat.*
8. GALEOPSIS. *Upper lip of the Corolla vaulted, crenate; lower three-lobed, with two hollow prominences at the base in front.*
9. GALEOBOLON. *Lower lip of the Corolla in three undivided segments.*
11. STACHYS. *Lower lip of the Corolla with reflected lateral lobes. Stamens finally spreading outwards at each side.*
3. NEPETA. *Lower lip of the Corolla with numerous notches: throat bordered and reflected at each side.*
12. BALLOTA. *Calyx with ten furrows. Upper lip of the Corolla vaulted, hairy.*
13. MARRUBIUM. *Calyx with ten furrows. Upper lip of the Corolla straight, linear, cleft.*
4. VERBENA. *Calyx with one of the five teeth abrupt. Corolla nearly equal, curved. Stamens in the tube.*

\*\* *Calyx two-lipped.*

19. SCUTELLARIA. *Lips of the Calyx closing over the fruit; upper lip with a vaulted process.*
17. THYMUS. *Calyx closed with hairs at the mouth.*
18. MELITTIS. *Calyx open, wider than the tube of the Corolla. Upper lip of the Corolla nearly flat. Anthers approaching in pairs and forming a cross.*
15. CLINOPODIUM. *Calyx many-ribbed. An involucre of numerous taper leaves under the flowers.*
16. ORIGANUM. *Calyx ribless. Involucres of numerous, dilated, flat leaves, one to each flower, collected into a kind of cone.*
20. PRUNELLA. *Filaments forked, one of the points bearing the anther.*

Order II. ANGIOSPERMIA. *Seeds in a Capsule.*\* *Calyx four-cleft.*

25. LATHRÆA. *Capsule* one-celled. A depressed *gland* at the base of the *germen*.  
 21. BA'RTSIA. *Capsule* two-celled. *Seeds* angular, *Corolla* gaping, with a contracted orifice.  
 22. RHINANTHUS. *Capsule* two-celled. *Seeds* compressed, imbricated. *Calyx* inflated, four-toothed.  
 24. MELAMPY'RUM. *Capsule* two-celled. *Seeds* in pairs, obtuse, smooth. *Upper lip* of the *Corolla* vaulted, compressed, with a reflected border at each side.  
 23. EUPHRA'SIA. *Capsule* two-celled. *Seeds* striated. *Upper lip* of the *Corolla* with several notches.

\*\* *Calyx five-cleft.*

33. LIMOSE'LLA. *Capsule* imperfectly two-celled. *Corolla* bell-shaped, five-cleft, nearly equal.  
 29. SCROPHULA'RIA. *Capsule* two-celled. *Corolla* with an inflated nearly globular tube.  
 32. SIBTHOR'PIA. *Capsule* two-celled, with transverse partitions. *Corolla* nearly wheel-shaped. *Stamens* coming together laterally in pairs.  
 30. DIGITA'LIS. *Capsule* two-celled. *Corolla* bell-shaped, inflated beneath, the limb obliquely four-lobed, unequal.  
 27. LINARIA. *Capsule* two-celled. *Corolla* closed with a palate, and having a prominence at the base.  
 28. ANTIRRHI'NUM. *Capsule* two-celled. *Corolla* closed with a palate, having a spur at the base behind.  
 26. PEDICULA'RIS. *Capsule* two-celled. *Corolla* gaping, the *upper lip* compressed.  
 31. LINNÆA. *Berry* dry, three-celled, one cell only bearing a single perfect *seed*. *Corolla* bell-shaped. *Calyx* double, the inner superior.

\*\*\* *Calyx two-leaved.*

34. OROBA'NCHE. *Calyx-leaves* lateral. A *gland* at the base of the *germen* beneath. *Capsule* one-celled, two-valved.

## DIDYNAMIA.—GYMNOSPERMIA.

## 1. A'JUGA. BUGLE.

*Calyx* deeply divided into five nearly equal segments, permanent. *Corolla* gaping; tube sometimes inflated at the base; upper lip very short, erect, abrupt, notched; lower lip large, three-lobed; the middle lobe undivided or notched; the lateral lobes small. Filaments longer than the upper lip, incurved. Germens superior, of four rounded lobes. Style incurved; stigma divided into two acute, spreading segments. *Seeds* four, oblong, rugged, in the bottom of the unaltered calyx.—Name supposed to be altered from *abigo*, to drive away. 280.

1. *A. pyramidalis*. *Pyramidal Bugle*. Plant hairy; whorls of flowers crowded into a pyramidal form; root-leaves very large, inversely egg-shaped, obtuse, crenate; upper lip of the corolla deeply cleft.—Stem four or five inches high: corolla bluish-purple, with dark streaks: upper lip in two deep acute lobes. Perennial; flowers in June: grows in dry heathy pastures in the Highlands of Scotland: found on Ben Nevis by Dr. Hope, Tor Aichalte by Mr. W. Gibb, on Ronanval in Harris, and a few other places in Scotland. *Eng. Bot.* vol. xviii. pl. 1270. *Eng. Fl.* vol. iii. p. 66. 847.

2. *A. alpina*. *Alpine Bugle*. Leaves nearly smooth, irregularly toothed, the uppermost white: whorls of flowers rather distant. Stem four or five inches high: corolla pale-blue, with darker streaks. Perennial: flowers in July: grows on mountains: rare. Carnarvonshire, Derbyshire, and Durham. *Eng. Bot.* vol. vii. pl. 477. *Eng. Fl.* vol. iii. p. 65. 846.

3. *A. reptans*. *Common Bugle*. Plant almost smooth, with a solitary stem and creeping scyons; lower lip of the corolla four-cleft.—Stem erect, simple, about six or eight inches high: flowers pale-blue. Perennial: flowers in May: grows in woods and moist pastures: common. *Eng. Bot.* vol. vii. pl. 489. *Eng. Fl.* vol. iii. p. 65. 847.

4. *A. Chamæpitys*. *Yellow Bugle*. *Ground Pine*. Stem spreading, branched; leaves divided into three linear entire segments: flowers axillar, solitary, shorter than the leaves.—Stems several, hairy: leaves crowded: corolla yellow. Annual: flowers in April and May: grows in sandy fields in England: rare. *Eng. Bot.* vol. ii. pl. 77. *Eng. Fl.* vol. iii. p. 67. 848.

## 2. TEUCRIUM. GERMANDER.

Calyx somewhat bell-shaped, a little unequal, tumid at the base, the limb deeply divided into five acute segments. Corolla gaping; tube cylindrical, short, curved upwards; upper lip as if wanting, being divided to the base into two distant lateral lobes; lower lip spreading, three-lobed, the central lobe largest. Filaments much longer than the upper lip, ascending, curved. Germen superior, four-cleft. Style incurved; stigma divided into two acute, spreading segments. Seeds four, oblong, wrinkled, in the bottom of the permanent calyx.—Named after *Teucer*, prince of Troy. 281.

1. *T. Scorodonia*. *Wood Sage*. *Wood Germander*. Leaves heart-shaped, serrate, stalked; flowers in lateral clusters; stems erect.—Root creeping: stem about a foot and a half high, acutely four-cornered, hairy: leaves wrinkled: corolla pale-yellow. The whole plant is bitter, and is said to answer instead of hops in making beer. Perennial: flowers in July: grows in woods, the clefts of rocks, and among rubbish: common. *Eng. Bot.* vol. xxii. pl. 1543. *Eng. Fl.* vol. iii. p. 68. 849.

2. *T. Scordium*. *Water Germander*. Leaves oblong, sessile, downy, with tooth-like serratures; flowers axillar, stalked, in pairs; stem procumbent.—Root creeping: stems branched: leaves hoary: corolla pale-purple. Very bitter. The leaves powdered are used as a vermifuge. Perennial: flowers in July and August: grows in wet meadows: rare. Isle of Ely, about Cambridge, on the banks of the Isis; several parts of Ireland. *Eng. Bot.* vol. xii. pl. 828. *Eng. Fl.* vol. iii. p. 68. 850.

3. *T. Chama'drys*. *Wall Germander*. Leaves somewhat egg-shaped, stalked, deeply crenate; flowers axillar, three together, stalked; stem rounded, hairy.—Root creeping: stems nearly erect, about a foot high, with rounded corners: leaves fringed, even: flowers crimson. The whole plant is very bitter, and was formerly used medicinally. Perennial: flowers in July: grows on old buildings: rare. Winchelsea Castle; city wall of Norwich; an old wall at Rubislaw, near Aberdeen, &c. *Eng. Bot.* vol. x. pl. 680. *Eng. Fl.* vol. iii. p. 69. 851.

### 3. NEPETA. CAT-MINT. .

Calyx of one leaf, tubular, cylindrical, with five acute, erect teeth. Corolla gaping; tube cylindrical, slender, incurved, dilated at the throat, which has on each side a narrow, reflected lobe; upper lip erect, roundish, slightly cleft; lower rounded, concave, large, undivided, with numerous notches. Filaments awl-shaped, close to each other, covered by the upper lip; anthers incumbent. Germen small, four-cleft. Style thread-shaped, of the length of the stamens; stigma cleft, acute. Seeds four, nearly egg-shaped, even, in the bottom of the dry permanent calyx.—Name uncertain. 282.

1. *N. Cataria*. *Common Cat-mint*. Flowers in spikes; whorls on short stalks; leaves stalked, heart-shaped, with tooth-like serratures.—The whole plant soft and downy: stems two or three feet high; erect, branched: leaves paler beneath: flowers numerous, white, lower lip dotted with crimson. Cats are extravagantly fond of the smell of this plant. Perennial: flowers in July and August: grows in hedges and waste places: not common. *Eng. Bot.* vol. ii. pl. 137. *Eng. Fl.* vol. iii. p. 70. 852.

### 4. VERBENA. VERVAIN.

Calyx tubular, angular, with five marginal teeth, one rather shorter than the rest. Corolla unequal; tube cylindrical, straight, twice as long as the calyx; limb spreading, divided into five deep, rounded, somewhat unequal segments. Filaments two or four, bristle-shaped, very short, incurved, within the tube of the corolla; anthers of two rounded lobes. Germen four-cornered. Styles slender, as long as the tube; stigma obtuse. Seeds two or four, oblong.—Name Celtic, from *fer*, to drive, and *faen*, a stone. 283.

1. *V. officinalis*. *Common Vervain*. Stamens four; spikes slender, paniced; leaves deeply cut; stem generally solitary.—Root woody: stem ascending a foot and a half high, leafy, covered with minute bristles: leaves roughish, pinnatifid: flowers small, bluish. Perennial: flowers in July: grows by road-sides, and in waste ground, about villages: frequent in England. *Eng. Bot.* vol. x. pl. 767. *Eng. Fl.* vol. iii. p. 71. 853.

### 5. MENTHA. MINT.

Calyx of one leaf, tubular, erect, with five nearly equal marginal teeth. Corolla straight, funnel-shaped, a little longer than the calyx; limb deeply divided into four nearly equal segments,

the upper slightly notched. Filaments awl-shaped, straight, distant, arising from the throat of the corolla; anthers two-lobed. Germen superior, four-lobed. Style thread-shaped, erect; stigma protruded, divided into two sharp, equal, spreading segments. Seeds four, small, in the bottom of the calyx.—Name, *menthe*, an ancient Greek term. 284.

1. *M. sylvestris*. *Horse Mint*. Spikes oblong, scarcely interrupted; leaves deeply serrate, acute, downy; bracteas narrow lance-shaped; calyx hairy.—The whole plant covered with fine downy hairs: stems erect, two or three feet high, branched, leafy, with deflexed hairs: leaves sessile, egg-shaped, hoary: spikes terminal, with linear bracteas, and pale-purple flowers. Perennial: flowers in August and September: grows in moist waste ground: not common. *Eng. Bot.* vol. x. pl. 686. *Eng. Fl.* vol. iii. p. 73. 854.

2. *M. viridis*. *Spear Mint*. Spikes elongated, interrupted; leaves lance-shaped, acute, naked, sessile; bracteas linear; flower-stalks smooth.—Stems two or three feet high, erect, branched, acutely four-cornered, smooth: spikes panicle, elongated, acute, the whorls of pale-purple flowers a little distant. All the species of mint have a strong aromatic smell, but the properties of this being more agreeable than those of the others, it has been preferred, and is employed for culinary and medicinal purposes. Perennial: flowers in August: grows in watery places: rare, and perhaps never truly wild. *Eng. Bot.* vol. xxxiv. pl. 2424. *Eng. Fl.* vol. iii. p. 75. 855.

3. *M. rotundifolia*. *Round-leaved Mint*. Spikes oblong, interrupted, somewhat hairy; leaves elliptical, obtuse, wrinkled, acutely crenate, shaggy beneath; bracteas lance-shaped.—The whole plant covered with long soft hairs: stems about two feet high: under surface of the leaves white and woolly. Perennial: flowers in August and September: grows in wet places: not common. *Eng. Bot.* vol. vii. pl. 446. *Eng. Fl.* vol. iii. p. 74. 856.

4. *M. piperita*. *Pepper Mint*. Spikes obtuse, interrupted below; leaves stalked, somewhat egg-shaped, smoothish; calyx very smooth at the base.—Stems nearly erect, roughish, with recurved hairs, from two to four feet high: leaves dark-green, acute, serrate, more hairy beneath: spikes interrupted and leafy below: corollas purple: bracteas lance-shaped, fringed. Perennial: flowers in August and September: grows in watery places. The only apparently natural station that I have seen for it is the pools near Selkirk, formed by the Yarrow. The essential oil and distilled water of this plant are used in a variety of cordial or medicinal preparations. *Eng. Bot.* vol. x. pl. 687. *Eng. Fl.* vol. iii. p. 76. 857.

5. *M. citrila*. *Bergamot Mint*. Spikes in heads, very obtuse; leaves stalked, heart-shaped, naked on both sides; calyx and flower-stalks smooth.—Stems about two feet high, branched: leaves serrate: flowers in round, terminal heads: corolla reddish-purple. Perennial: flowers in August and September: grows in watery places: rare, and not indigenous. *Eng. Bot.* vol. xv. pl. 1025. *M. odorata*. *Eng. Fl.* vol. iii. p. 78. 858.

6. *M. hirsuta*. *Hairy Mint*. Flowers in heads or whorls; leaves stalked, egg-shaped, serrate, hairy; calyx hairy; flower-stalks



with recurved hairs.—This species varies exceedingly in its appearance: flowers pale-purple. Perennial: flowers in August and September: grows in ditches, and by the sides of pools, lakes, and streams: common. *Eng. Bot.* vol. vii. pl. 447 and 418. *Eng. Fl.* vol. iii. p. 79. Of this *M. acutifolia* of Smith, *Eng. Bot.* pl. 2415, *Eng. Fl.* vol. iii. p. 84, appears to be a variety. 859.

7. *M. rubra*. *Tall Red Mint*. Flowers in whorls, stem erect, zigzag; leaves stalked, broadly egg-shaped, serrate, smooth; flower-stalks and lower part of the calyx smooth.—Stems from four to five feet high: leaves of a deep shining green, bracteas linear, fringed: corolla large, purplish-red. Perennial: flowers in September: grows in watery places: not common. *Eng. Bot.* vol. xx. pl. 1413. *Eng. Fl.* vol. iii. p. 82. 860.

8. *M. gentilis*. *Bushy Red Mint*. Flowers in whorls; stem much branched, spreading; leaves stalked, egg-shaped, serrate, slightly hairy; flower-stalks and lower part of the calyx nearly smooth.—Stem erect, bushy, with numerous spreading branches, about a foot and a half high: bracteas lance-shaped, hairy: corolla pale-purple. Perennial: flowers in August: grows in watery places: rare. *Eng. Bot.* vol. xxx. pl. 2118. *Eng. Fl.* vol. iii. p. 83. *M. gracilis* of Smith, *Eng. Bot.* pl. 449, *Eng. Fl.* vol. iii. p. 84, is probably a variety of this. 861.

9. *M. arvensis*. *Corn Mint*. Flowers in whorls; leaves stalked, egg-shaped; stem branched, spreading; calyx bell-shaped, covered with spreading hairs.—Pale-green, hairy; stems from six inches to a foot long, generally decumbent: leaves serrate: flowers pale-purple. The smell of this species has been compared to that of green cheese. Perennial: flowers from June to September: grows in corn-fields, in dry ditches, and in pastures: common. *Eng. Bot.* vol. xxx. pl. 2119. *Eng. Fl.* vol. iii. p. 85. 862.

10. *M. Pulégium*. *Penny Royal*. Flowers in whorls; leaves egg-shaped, blunt, obtusely crenate, downy; stems prostrate; flower-stalks and calyx downy.—Stems hairy, branched, creeping: leaves stalked, full of pellucid dots: corolla light-purple, externally hairy. Perennial: flowers in September: grows in moist heaths and pastures, in England, and the south of Ireland: rare. *Eng. Bot.* vol. xv. pl. 1026. *Eng. Fl.* vol. iii. p. 87. 863.

### 6. GLECHOMA. GROUND IVY.

Calyx of one leaf, tubular, cylindrical, striated, with five pointed, unequal, marginal teeth. Corolla gaping; tube slender, compressed; upper lip erect, obtuse, cleft half-way down; lower lip three-lobed, the middle lobe larger and cleft. Filaments covered by the upper lip; anthers of each pair coming together, and forming a cross. Germen egg-shaped, four-cleft. Style thread-shaped, curved under the upper lip; stigma cleft, acute. Seeds four, egg-shaped, in the bottom of the permanent calyx.—Name from *glechon*, a sort of thyme. 285.

1. *G. hederacea*. *Ground Ivy*. *Gill. Ale-hoof*. Leaves kidney-shaped, crenate.—Roots creeping, sending out long runners: stems frequently several feet long, creeping: leaves stalked: flowers bluish-purple, with a variegated palate. This plant is aro-

matic, and has been variously used as a medicine. Perennial : flowers in April and May : grows by old walls, hedges, and road-sides : common. *Eng. Bot.* vol. xii. pl. 853. *Eng. Fl.* vol. iii. p. 88. 864.

### 7. *LAMMIUM*. DEAD-NETTLE.

Calyx of one leaf, tubular, becoming wider towards the mouth, with five nearly equal, awn-tipped teeth. Corolla gaping ; tube cylindrical, very short ; limb open ; throat inflated, compressed, bulging, bordered at each side with one or more little reflected teeth ; upper lip vaulted, roundish, obtuse ; lower lip shorter, inversely heart-shaped, notched. Filaments awl-shaped, covered by the upper lip ; anthers oblong, hairy. Germen four-cleft. Style thread-shaped, of the length of the stamens ; stigma divided into two acute, spreading segments. Seeds four, short, three-cornered, convex on one side, at the bottom of the calyx.—Name from *Lamia*, a celebrated marine monster. 826.

1. *L. album*. *White Dead-nettle*. *White Archangel*. Leaves heart-shaped, pointed, deeply serrate, hairy ; flowers about twenty in a whorl.—Root creeping : stems decumbent at the base, erect, about a foot high : covered with short deflected hairs : leaves veiny, hairy : flowers large, white, hairy. Perennial : flowers in May and June, but individuals may be got in flower at all seasons : grows among rubbish, and by hedges, walls, and road-sides : common. *Eng. Bot.* vol. xi. pl. 768. *Eng. Fl.* vol. iii. p. 89. A variety with purple flowers and spotted leaves is the *L. maculatum*, *Spotted Dead-nettle*. *Eng. Bot.* vol. xxxvi. pl. 2550. *Eng. Fl.* vol. iii. p. 90. 865.

2. *L. purpureum*. *Red Dead-nettle*, or *Archangel*. Leaves heart-shaped, bluntish, unequally crenate, stalked, the upper ones crowded ; tube of the corolla closed near the bottom with hairs.—Root fibrous : stem curved at the base and branched, then erect, densely leafy at the top : flowers purplish-red. Annual : flowers all the year-round : grows in loose soil every where. *Eng. Bot.* vol. xi. pl. 769. *Eng. Fl.* vol. iii. p. 91. 866.

3. *L. incisum*. *Cut-leaved Dead-nettle*. Leaves broadly heart-shaped, obtuse, stalked, irregularly cut, the upper ones crowded ; tube of the corolla internally naked.—Resembling the last, but differing essentially in the characters given. The leaves are less rugged and thinner. Annual : flowers all the year round : grows in loose soil : common. *Eng. Bot.* vol. xxvii. pl. 1933. *Eng. Fl.* vol. iii. p. 91. 867.

4. *L. amplexicaule*. *Hen-bit Dead-nettle*. Leaves broadly heart-shaped, obtuse, deeply crenate, the upper ones embracing the stem.—Lower leaves stalked, upper sessile, all hairy : corolla with the upper lip crimson and downy, the lower pale and spotted. It frequently occurs with a small externally hairy corolla, which never expands. Annual : flowers in the summer months : grows in loose soil : common. *Eng. Bot.* vol. xi. pl. 770. *Eng. Fl.* vol. iii. p. 92. 868.

### 8. *GALEOPSIS*. HEMP-NETTLE.

Calyx of one leaf, tubular, with five spreading, thorn-tipped teeth, as long as the tube. Corolla gaping ; tube slender at the

base, dilated at the throat, which has two prominences, hollow beneath, in front; upper lips vaulted, roundish, serrate at the end; lower lip deeply three-lobed, the lateral lobes roundish, the middle one larger, cleft and crenate. Filaments awl-shaped, covered by the upper lip; anthers roundish, cleft. Germen superior, four-lobed. Style thread-shaped, as long as the stamens; stigma divided into two acute, spreading segments. Seeds four, triangular, convex at the top, in the bottom of the stiff, thorny, open calyx.—Name, from *gale*, a weasel, and *opsis*, appearance. 287.

1. *G. Ladinum*. *Red Hemp-nettle*. Stem not swelled below the joints; leaves lance-shaped, somewhat serrate, hairy; upper lip of the corolla slightly crenate.—Stem about a foot high, erect, with opposite branches: flowers in dense whorls: corolla rose-coloured, spotted with crimson and white. Annual: flowers in August and September: grows among rubbish and in gravelly fields: frequent in England: rare in Scotland. *Eng. Bot.* vol. xiii. pl. 884. *Eng. Fl.* vol. iii. p. 93. 869.

2. *G. villosa*. *Downy Hemp-nettle*. Stem not swelled below the joints; leaves narrowly egg-shaped, serrate, very soft and downy; upper lip of the corolla deeply crenate.—Stem erect, branched, woolly: leaves stalked, the lower egg-shaped, the upper lance-shaped, taper-pointed: calyx deeply shaggy: corolla large, pale-yellow, with a large cleft upper lip. Annual: flowers in July and August: grows in sandy corn-fields in England: rare. *Eng. Bot.* vol. xxxiii. pl. 2353. *Eng. Fl.* vol. iii. p. 94. 870.

3. *G. Tétrahit*. *Common Hemp-nettle*. Stem bristly, swelled below the joints; corolla twice as long as the calyx, its upper lip nearly straight.—Stem from one to two feet high, rough with deflected, very sharp, prickly bristles: leaves egg-shaped, acute, serrate, hairy on both sides: flowers in numerous dense whorls: corolla with a purple upper lip, and a nearly equally three-lobed lower one, variegated with white and purple. Annual: flowers in June and July: grows in cultivated grounds, hedges, and waste places: common. *Eng. Bot.* vol. iii. pl. 207. *Eng. Fl.* vol. iii. p. 94. 871.

4. *G. versicolor*. *Large-flowered Hemp-nettle*. Stem bristly, swelled below the joints; corolla thrice as long as the calyx, its upper lip vaulted.—Stem from one to two feet high, with deflected bristles: corolla large, yellow, the middle segments of the lower lip inversely heart-shaped, purple. Annual: flowers in July: grows among corn: not common, except in Scotland. *Eng. Bot.* vol. x. pl. 667. *Eng. Fl.* vol. iii. p. 95. 872.

### 9. GALEOBDOLON. WEASEL-SNOUT.

Calyx of one leaf, tubular, bell-shaped, with five unequal, spreading, thorn-tipped teeth, shorter than the tube, the upper tooth erect, at some distance from the other. Corolla gaping; tube cylindrical, as long as the calyx; upper lip oval, vaulted, hairy, entire, fringed; lower lip shorter, divided into three oblong, acute, undivided segments, the middle one longest. Filaments awl-shaped, covered by the upper lip; anthers roundish, two-lobed. Germen four-lobed. Style thread-shaped, as long as the

stamens; stigma divided into two acute, spreading segments. Seeds four, short, three-cornered, abrupt, in the bottom of the open calyx.—Name, from *gale*, a weasel. 288.

1. *G. luteum*. *Yellow Weasel-snout*. Root creeping; stems eighteen inches high, simple, leafy, covered with deflected hairs: leaves stalked, egg-shaped, serrate, hairy: whorls numerous, hairy flowers: corolla large, yellow, the lower lip spotted with red. Perennial: flowers in May: grows in woods and hedges: frequent. *Eng. Bot.* vol. xi. pl. 287. *Eng. Fl.* vol. iii. p. 96. 873.

#### 10. BETONICA. BETONY.

Calyx of one leaf, tubular, cylindrical, with five nearly equal, thorn-tipped teeth, shorter than the tube. Corolla gaping; tube cylindrical, curved; upper lip roundish, undivided, nearly flat, erect; lower lip longer, divided into three deep segments, the middle one broader, roundish, notched. Filaments awl-shaped, inclined towards the upper lip; anthers round, two-lobed. Germen rounded, four-lobed. Style thread-shaped, as long as the stamens; stigma cleft, acute. Seeds four, egg-shaped, in the bottom of the calyx.—Name, from *ben*, good, and *ton*, head. 289.

1. *B. officinalis*. *Wood Betony*. Spike interrupted; middle segment of the lower lip notched.—Stem rough, with deflected bristles: leaves oblong, deeply serrate, the lower ones stalked: corolla purple. Perennial: flowers in July and August: grows in woods and thickets. It was formerly much used in medicine. The powdered leaves excite sneezing, and the root is said to be emetic. *Eng. Bot.* vol. xvi. pl. 1142. *Eng. Fl.* vol. iii. p. 97. 874.

#### 11. STACHYS. WOUNDWORT.

Calyx of one leaf, tubular, angular, with five spreading, unequal, thorn-pointed teeth, scarcely so long as the tube. Corolla gaping; tube very short; throat oblong, swelling beneath at the base; the upper lip erect, egg-shaped, vaulted; lower lip larger, with three lobes; the lateral ones reflected, the middle lobe largest and notched. Filaments awl-shaped, ultimately bent towards the sides of the mouth; anthers roundish, two-valved. Germen with four divisions. Styles thread-shaped, as long as the stamens; stigma cleft, acute. Seeds four, angular, abrupt, in the bottom of the calyx.—Name, *stachys*, a spike. 290.

1. *S. sylvestica*. *Hedge Woundwort*. Whorls of six flowers; leaves heart-shaped, acute, stalked.—Stem two or three feet high, erect, leafy, hairy: leaves serrate, veined, hairy: flowers dull-red, the palate variegated with white and dark purple. It has a strong fetid smell, which is imagined to attack toads. Perennial: flowers in July and August: grows among rubbish, and by hedges and walls. *Eng. Bot.* vol. vi. pl. 416. *Eng. Fl.* vol. iii. p. 98. 875.

2. *S. ambigua*. *Ambiguous Woundwort*. Whorls of six flowers; leaves oblong, stalked, heart-shaped at the base.—Stem and leaves hairy: flowers red, the palate variegated. Perennial: flowers in August and September: grows in waste places and cultivated

ground: common. *Eng. Bot.* vol. xxiv. pl. 1675. *Eng. Fl.* vol. iii. p. 99. Probably only a variety of the next species. 876.

3. *S. palustris*. *Marsh Woundwort*. Whorls of from six to ten flowers; leaves lance-shaped, embracing the stem; root tuberous. —Stem erect, from two to three feet high, rough with deflected bristles: leaves serrate, somewhat woolly beneath: flowers purplish-red, variegated with white and dark purple. Perennial: flowers in August: grows about edges of rivers, ponds, and ditches, and in wet fields: frequent. *Eng. Bot.* vol. xxiv. pl. 1675. *Eng. Fl.* vol. iii. p. 99. 877.

4. *S. Germánica*. *Downy Woundwort*. Whorls many-flowered; leaves egg-shaped, crenate, densely covered with white woolly hairs; stem woolly, erect. —Stems two feet high: corolla light-purple: palate striped with white. Perennial: flowers in September: grows in hedges and by road-sides in England: rare. *Eng. Bot.* vol. xii. pl. 829. *Eng. Fl.* vol. iii. p. 100. 878.

5. *S. arvensis*. *Corn Woundwort*. Whorls six-flowered; stem weak; leaves heart-shaped, obtuse, crenate, slightly hairy. —Stem branched, ascending: corolla small, light-purple, palate white and spotted with purple. Annual: flowers in July and August: grows in gravelly or sandy fields: frequent. *Eng. Bot.* vol. xvii. pl. 1154. *Eng. Fl.* vol. iii. p. 100. 879.

6. *S. annua*. *Pale Annual Woundwort*. Whorls six-flowered; leaves lanceolate, broadly serrate, three-nerved, the lower stalked. —Stem erect, downy: calyx hairy, with awl-shaped segments: corolla light-purple. Annual: flowers in August: found in a field between Gadshill and Rochester, by Jos. Woods, Esq. *Eng. Bot. Suppl.* pl. 2669. *Brit. Fl.* 4th ed. p. 233. 880.

## 12. BALLO'TA. BLACK HOREHOUND.

Calyx of one leaf, tubular, oblong, with five corners, ten ribs, and ten furrows, the limb dilated, spreading, plaited, regular, with five pointed teeth. Corolla gaping; tube cylindrical, as long as the calyx; upper lip erect, egg-shaped, notched; lower lip three-lobed, the middle lobe larger and cleft. Filaments awl-shaped, directed towards the upper lip; anthers oblong, two-valved. Germen small, four-lobed. Style thread-shaped, as long as the stamens; stigma slender, cleft. Seeds four, egg-shaped, in the bottom of the somewhat hardened calyx. —Named from *ballo*, to reject, on account of its offensive odour. 291.

1. *B. nigra*. *Black Horehound*. Leaves egg-shaped, undivided, serrate; calyx funnel-shaped, abrupt, with short spreading teeth. —Stem two or three feet high, erect, branched, downy: calyx dilated at the mouth: corolla dull purple: upper lip cleft, covered externally with white hairs, lower marked with white veins. Perennial: flowers in July and August: grows among rubbish, and in hedges: common. *Eng. Bot.* vol. i. pl. 46. *Eng. Fl.* vol. iii. p. 101. 881.

## 13. MARRUBIUM. HOREHOUND.

Calyx of one leaf, tubular, funnel-shaped, with ten furrows, the limb spreading, regular, generally with ten narrow teeth.

Corolla gaping; tube cylindrical; throat elongated, tubular; upper lip erect, linear, divided into two acute lobes; lower lip broader, reflected, divided into three deep lobes, the lateral ones acute, the middle lobe larger and cleft. Filaments much shorter than the corolla, covered by the upper lip; anthers small, oblong. Germen rounded, four-lobed. Style thread-shaped, as long as the stamens; stigma cleft, acute. Seeds four, oblong, in the bottom of the hardened calyx, which is contracted at the neck.—Name supposed to be derived from *Maria urbs*, an ancient town of Italy. 292.

1. *M. vulgare*. *Common White Horehound*. Calyx-teeth ten, bristle-shaped, hooked backwards; leaves broadly egg-shaped, unequally serrate.—Stem bluntly four-cornered, branched, woolly: lower leaves stalked, upper sessile, woolly: flowers white. Perennial: flowers in July: grows in dry waste ground, and by roadsides: frequent. *Eng. Bot.* vol. vi. pl. 410. *Eng. Fl.* vol. iii. p. 103. 882.

#### 14. LEONURUS. MOTHERWORT.

Calyx of one leaf, funnel-shaped, with five prominent angles, and five acute, spreading teeth. Corolla gaping; tube narrow, short; upper lip longest, concave, protuberant, rounded and undivided at the end, shaggy; lower lip reflected, deeply divided into three lance-shaped, nearly equal lobes. Filaments much shorter than the corolla, covered by the upper lip; anthers oblong, compressed, cleft, covered with minute, globular, shining, hard dots. Germen four-lobed, abrupt. Style thread-shaped, incurved; stigma cleft, acute. Seeds four, oblong, abrupt, hairy, in the tube of the hardened calyx.—Name, from *leon*, a lion, and *oura*, tail. 293.

1. *L. Cardiac*. *Common Motherwort*. Stem-leaves lance-shaped, three-lobed.—Stem two or three feet high, minutely downy, acutely four-cornered: calyx stiff and sharp-bristled: corolla purplish, the upper lip white with erect hairs, the lower variegated. Perennial: flowers in August: grows in hedges and waste places: not common. 883.

#### 15. CLINOPODIUM. WILD-BASIL.

Involucre of numerous bristle-shaped leaves, under the flowers, nearly as long as the calyx. Calyx of one leaf, tubular, many-ribbed, slightly curved, two-lipped; upper lip broader, ascending, divided into three acute segments; lower lip longer, incurved, divided into two deep slender segments; throat closed with hairs. Corolla gaping; tube cylindrical, rather short; throat longer and wider; upper lip erect, concave, obtuse, slightly cleft; lower lip divided into three segments, the middle one very broad and notched. Filaments cylindrical, directed towards the upper lip, shorter than the corolla; anthers two-lobed, meeting in pairs so as to form a cross. Germen four-lobed. Style thread-shaped, as long as the stamens; stigma two-cleft, pointed. Seeds four, egg-shaped, in the bottom of the closed, tumid calyx.—Named from *cline*, a bed, and *pous*, a foot. 294.

1. *C. vulgäre. Common Wild-basil.* Leaves egg-shaped, obscurely serrate; whorls bristly; involucre leaves awl-shaped; flower-stalks branched.—Stems ascending, about a foot high, hairy; whorls few, axillar and terminal: flowers light-purple. Perennial: flowers in August: grows in bushy places, about hedges, and by roads: frequent. *Eng. Bot.* vol. xx. pl. 1401. *Eng. Fl.* vol. iii. p. 105. 884.

#### 16. ORIGANUM. MARJORAM.

Involucre of numerous imbricated, egg-shaped, flat, coloured leaves, one under each flower, longer than the calyx. Calyx of one leaf, with an obtusely angular tube. Corolla gaping; tube cylindrical, compressed; upper lip erect, flat, obtuse, notched; lower lip deeply divided into three nearly equal, undivided lobes. Filaments thread-shaped, as long as the corolla; anthers distant, egg-shaped, two-lobed. Germen four-lobed. Style thread-shaped, ascending; stigma slightly notched. Seeds four, egg-shaped, in the bottom of the closed calyx.—Name, from *oros*, a mountain, and *ganos*, joy. 295.

1. *O. vulgäre. Common Marjoram.* Spikes roundish, panicle, crowded, erect; involucre leaves egg-shaped, longer than the calyx.—Stem a foot high, purplish, leafy, with short recurved hairs: leaves egg-shaped, very slightly serrate, opposite, dotted, hairy, sprinkled with resinous dots: flowers light-purple. It has a warm aromatic flavour. Perennial: flowers in July and August: grows in bushy places and dry banks: frequent. *Eng. Bot.* vol. xvi. pl. 1143. *Eng. Fl.* vol. iii. p. 106. 885.

#### 17. THYMUS. THYME.

Calyx of one leaf, tubular, many-ribbed, two-lipped, closed at the mouth with hairs; upper lip broader, flat, erect, with three acute teeth; lower lip of two longer awl-shaped teeth. Corolla gaping; tube as long as the calyx; upper lip shorter, flat, erect, obtuse, with a small notch; lower lip longer and broader, three-lobed, the middle lobe broader. Filaments thread-shaped, incurved, shorter than the corolla; anthers two-lobed. Germen four-cleft. Style thread-shaped; stigma divided into two acute segments. Seeds four, small, roundish, in the bottom of the closed calyx.—Name, *thymos*, courage. 296.

1. *T. Serpyllum. Wild Thyme.* Flowers in small heads; stems branched, decumbent; leaves flat, egg-shaped, obtuse, entire, fringed at the base.—Stems lying along the ground, somewhat woody, with numerous branches, each terminating in a dense head of pale-purple flowers. The smell of the whole plant is aromatic and pleasant. Bees are said to be greatly attached to this plant, and it has been alleged to give a fine flavour to mutton. It varies greatly as to size and hairiness, as well as to smell, certain varieties being entirely scentless. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. xxii. pl. 1514. *Eng. Fl.* vol. iii. p. 108. 886.

2. *T. Acinos. Basil Thyme.* Flowers in whorls, one on each flower-stalk; stems branched, ascending; leaves acute, serrate.—Stems about six inches high, leafy: flowers bluish-purple, varie-

gated with white and dark purple. Annual: flowers in July and August: grows in cultivated fields and dry pastures: not common. *Eng. Bot.* vol. vi. pl. 411. *Eng. Fl.* vol. iii. p. 109. 887.

3. *T. Calamintha*. *Common Calamint*. Flowers in whorls, on branched stalks; leaves egg-shaped, serrate; stem erect, downy. — Flower-stalks three-forked, the lateral divisions again forked; corolla twice as long as the calyx, light-purple dotted with blue. The whole plant has a pleasant aromatic smell. Perennial: flowers in July and August: grows by way-sides and the borders of fields: not common. *Eng. Bot.* vol. xxvi. pl. 1676. *Eng. Fl.* vol. iii. p. 109. 888.

4. *T. Nepeta*. *Lesser Calamint*. Flowers in whorls, on branched stalks, longer than the leaves; leaves serrate; stem ascending, hairy. — Flower-stalks subdivided: flowers pale-purple: mouth of the calyx with conspicuous white hairs. Perennial: flowers in August: grows by way-sides and on dry banks. *Eng. Bot.* vol. xx. pl. 1114. *Eng. Fl.* vol. iii. p. 110. This is probably a mere variety of the last. 889.

#### 18. MELITTIS. BASTARD-BALM.

Calyx bell-shaped, slightly angular, straight, two-lipped; upper lip rather longer, acute; lower acute, deeply cleft. Corolla gaping; tube much narrower than the calyx; throat slightly dilated; upper lip erect, rounded, entire; lower lip three-lobed, the middle lobe larger, and inversely heart-shaped. Filaments awl-shaped, straight, shorter than the upper lip; anthers two-lobed, coming together so as to form a double cross. Germen four-lobed, downy. Style thread-shaped, as long as the stamens; stigma cleft, acute. Seeds four, oval, small, in the bottom of the open calyx. — Name, from *melissa*, a bee. 297.

1. *M. Melissophyllum*. *Reddish Bastard-balm*. Calyx with three unequal lobes. — Stem nearly simple, covered with fine hairs: broadly lance-shaped, serrate, hairy: corolla twice as long as the calyx, downy, externally pale-red, internally whitish, with a crimson spot on each of the lobes. Perennial: flowers in May and June: grows in woods and hedges in the south and west of England. *Eng. Bot.* vol. ix. pl. 577. *Eng. Fl.* vol. iii. p. 111. The *M. grandiflora*, *Purple-and-White Bastard-balm*, is a handsome variety of this plant, with large light-red or cream-coloured flowers, with a violet spot on the lower lip. *Eng. Bot.* vol. ix. pl. 636. *Eng. Fl.* vol. iii. p. 112. 890.

#### 19. SCUTELLARIA. SKULL-CAP.

Calyx of one leaf, tubular, very short, slightly two-lipped, with four shallow, obtuse lobes, closed after flowering by a dorsal scale. Corolla gaping, with a very short tube; upper lip concave, divided into three segments, the middle one cleft and concave, the other flat, acute, lower lip broader, divided into three shallow lobes. Filaments concealed under the upper lip; anthers small, roundish, two-lobed. Germen four-lobed. Style thread-shaped, as long as the stamens; stigma undivided, acute, incurved. Seeds four, roundish, in the bottom of the calyx, and covered by the enlarged dorsal scale. — Name, from *scutella*, a small vessel. 298.



1. *S. galericulata*. *Common Skull-cap*. Leaves lance-shaped, crenate, wrinkled, heart-shaped at the base; flowers axillar.—Stem about a foot high, erect, leafy: flowers purplish-blue. Perennial: flowers in July and August: grows on the stony banks of rivers and lakes: frequent. *Eng. Bot.* vol. viii. pl. 523. *Eng. Fl.* vol. iii. p. 113. 891.

2. *S. minor*. *Less Skull-cap*. Leaves egg-shaped, entire, heart-shaped at the base; flowers axillar.—From four to six inches high: flowers pale reddish-purple, the lower lip white, dotted with red. Perennial: flowers in July and August: grows in watery places: not common. *Eng. Bot.* vol. viii. pl. 524. *Eng. Fl.* vol. iii. p. 113. 892.

## 20. PRUNELLA. SELF-HEAL.

Calyx bell-shaped, two-lipped; upper lip flat, dilated, abrupt, with three very short, acute teeth; lower lip much narrower, straight, divided into two acute segments. Corolla gaping; tube short, cylindrical; throat longer and wider; upper lip concave, entire, inflected; lower lip reflected, divided into three obtuse crenate lobes, the middle one broader. Filaments directed towards the upper lip, awl-shaped, forked at the top: anthers on the lower branch of the filaments. Germen four-lobed. Style thread-shaped, as long as the stamens; stigma divided into two acute, recurved points. Seeds four, oval, in the bottom of the closed calyx.—Name, from the German *braune*, a disease of the throat. 299.

1. *P. vulgaris*. *Self-heal*. All the leaves between oblong and egg-shaped, stalked; teeth of the upper lip of the calyx very minute.—Stem from four to eight inches high, erect, leafy, downy, branched below, terminating in dense whorled spikes, of deep-purple flowers, each whorl with two broad obtuse bracteas. Perennial: flowers in July and August: grows in meadows and pastures: common. *Eng. Bot.* vol. xiv. pl. 961. *Eng. Fl.* vol. iii. p. 114. 893.

## ANGIOSPERMIA.

### 21. BARTSIA. BARTSIA.

Calyx of one leaf, tubular, coloured, with four acute, nearly equal, marginal segments. Corolla gaping, a little compressed; tube short; throat funnel-shaped; upper lip longer, concave, undivided; lower lip reflected, deeply divided into three nearly equal lobes. Filaments thread-shaped, incurved; anthers two-celled, a little hairy, collected under the upper lip. Germen simple, egg-shaped, acute. Style thread-shaped, curved; stigma obtuse. Capsule egg-shaped, pointed, compressed, two-celled, two-valved; the partition contrary to the valve. Seeds numerous, small, angular.—Named after Dr. *John Bartsch*, a Prussian botanist. 300.

1. *B. alpina*. *Alpine Bartsia*. Leaves opposite, egg-shaped, obtusely serrate; stem square; root creeping.—Stems from four to

eight inches high, simple, hairy: leaves sessile in pairs on the opposite sides of the stem, somewhat heart-shaped: flowers axillary, forming a close leafy spike: corolla purplish-blue: calyx purplish. Perennial: flowers in July: grows in elevated pastures, in the Highlands of Scotland and the north of England: rare. *Eng. Bot.* vol. vi. pl. 361. *Eng. Fl.* vol. iii. p. 117. 894.

2. *B. viscosa*. *Yellow Bartsia*. Leaves lance-shaped, serrate, the upper alternate: flowers lateral and distant; stem round; root fibrous.—Stem erect, downy, about a foot high: corolla yellow, with purple stains. Annual: flowers in July and August: grows in marshy ground, along the west coast: frequent. *Eng. Bot.* vol. xv. pl. 1045. *Eng. Fl.* vol. iii. p. 118. 895.

3. *B. Odontites*. *Red Bartsia*. Leaves lance-shaped, serrate, the upper alternate; flowers in unilateral clusters; stems square, branched.—Stem from six inches to a foot high, branched, the branches terminating in a leafy cluster of numerous rose-coloured flowers. Perennial: flowers in July and August: grows in moist meadows and pastures, and in corn-fields, and by road-sides: common. *Eng. Bot.* vol. xx. pl. 1415. *Eng. Fl.* vol. iii. p. 119. 896.

## 22. RHINANTHUS. YELLOW-RATTLE.

Calyx of one leaf, roundish, inflated, compressed, with four nearly equal, acute, marginal teeth. Corolla gaping; tube nearly cylindrical, as long as the calyx; upper lip narrower, helmet-shaped, compressed, slightly cleft; lower lip broader, expanded, deeply divided into three obtuse segments, the middle one somewhat larger. Filaments thread-shaped, shorter than the upper lip, and concealed by it; anthers two-lobed, hairy. Germen egg-shaped, compressed, with a channel at each side. Style thread-shaped, curved, a little longer than the stamens; stigma obtuse, bent inwards. Capsule roundish, compressed, with a small point, two-celled, two-valved; partitions transverse, united. Seeds compressed, imbricated, bordered.—Name, from *rhin*, the nose, and *anthos*, a flower. 301.

1. *R. Crista-galli*. *Yellow-rattle*. Stem branched, leaves lance-shaped, serrate; calyx smooth, seeds with a dilated membranous border.—Stem about a foot high, generally with a few branches, sometimes bushy: leaves rough, wrinkled, flowers axillary, crowded into a leafy spike: calyx membranous: corolla yellow: the ripe seeds rattle in the capsule. Annual: flowers in June: grows in pastures: common. *Eng. Bot.* vol. x. pl. 657. *Eng. Fl.* vol. iii. p. 120. A variety of large size and slight difference in the leaves is considered by some as a distinct species, under the name of *R. major*. *Eng. Bot. Suppl.* pl. 2737. *Brit. Fl.* 4th ed. p. 236. 897.

## 23. EUPHRA'SIA. EYE-BRIGHT.

~ Calyx of one leaf, tubular, cylindrical, ribbed, with four deep, equal, pointed, marginal teeth. Corolla gaping; tube as long as the calyx, cylindrical; upper lip slightly concave, crenate; lower lip divided into three deep, unequal, obtuse, cleft or notched segments. Filaments thread-shaped, directed towards

the upper lip; anthers large, of two lobes, pointed at the base, the points of the lower anthers elongated into straight bristles. Germen egg-shaped. Style thread-shaped, as long as the stamens; stigma obtuse. Capsule oblong, obtuse, compressed, two-celled, two-valved. Seeds minute, elliptical, compressed, furrowed.—Name, from *Euphrosyne*, expressive of joy. 302.

1. *E. officinalis*. *Eye-bright*. Leaves egg-shaped, furrowed, deeply toothed.—About four inches high, with a square, generally branched leaf: flowers axillar, solitary: corolla white, streaked with purple, yellowish on the palate. Annual: flowers from July to September: grows in pastures, abundantly. *Eng. Bot.* vol. xx. pl. 1416. *Eng. Fl.* vol. iii. p. 122. 898.

#### 24. MELAMPYRUM. COW-WHEAT.

Calyx of one leaf, tubular, with four deep, straight, unequal, marginal segments. Corolla gaping, tube oblong, curved; throat a little dilated, compressed; upper lip vaulted, compressed, notched, reflected at the edge on both sides; lower lip slightly plaited with two prominences on the palate, divided into three nearly equal, obtuse segments. Filaments awl-shaped, incurved, concealed under the upper lip; anthers oblong, two-lobed. Germen egg-shaped, pointed. Style thread-shaped, as long as the stamens; stigma obtuse. Capsule oblong, obliquely pointed, compressed, its upper edge convex; the lower straight, two-celled, two-valved, the partitions transverse. Seeds two in each cell, egg-shaped, obtuse.—Name, from *melas*, black, and *puros*, wheat. 303.

1. *M. cristatum*. *Crested Cow-wheat*. Spikes four-cornered; bracteas heart-shaped, closely imbricated, finely toothed.—Stems a foot high, or more, leafy, roughish: leaves nearly linear, rough on the edges: bracteas pectinate: flowers variegated with cream-colour and light-purple, the palate yellow. Annual: flowers in July: grows in woods and thickets in many parts of England. *Eng. Bot.* vol. i. pl. 41. *Eng. Fl.* vol. iii. p. 123. 899.

2. *M. arvense*. *Purple Cow-wheat*. Spikes conical; bracteas loose, lance-shaped, pinnatifid.—Stem from one and a half to two feet high, acutely four-cornered: leaves lance-shaped, rough on the edges: bracteas loosely spreading: flowers large, with a yellow corolla, its lips variegated with pale-red and purple. Annual: flowers in July: grows in corn-fields in Norfolk: rare. *Eng. Bot.* vol. i. pl. 53. *Eng. Fl.* vol. iii. p. 154. 900.

3. *M. pratense*. *Common Yellow Cow-wheat*. Flowers axillar, pointing one way; corolla closed, lower lip straight out; upper floral leaves toothed at the base.—Stem smooth, branched: leaves lance-shaped, pointed, smooth, entire: the uppermost toothed, sometimes pinnatifid at the base: flowers solitary, opposite: corolla pale at the base, deep-yellow towards the top, with a purple spot at each side of the mouth. Annual: flowers in July and August: grows in woods, bushy places, heaths, and pastures: frequent. *Eng. Bot.* vol. ii. pl. 113. *Eng. Fl.* vol. iii. p. 125. 901.

4. *M. sylvaticum*. *Wood Cow-wheat*. Flowers axillar, in distant

pairs, pointing one way; corolla open, with the lower lip bent downward; leaves nearly all entire.—This resembles the last, but is smaller: corolla smaller, deep-yellow, with some red spots about the mouth. Annual: flowers in July and August: grows in elevated woods: rare. *Eng. Bot.* vol. xii. pl. 804. *Eng. Fl.* vol. iii. p. 126. 902.

### 25. LATHRÆA. TOOTHWORT.

Calyx of one leaf, bell-shaped, with four deep, erect, nearly equal marginal segments. Corolla gaping; tube longer than the calyx, limb tumid; upper lip vaulted, acute; lower lip smaller, spreading, obtuse. Nectary a notched, depressed, very short gland, placed on the receptacle, at the lower side of the germen. Filaments awl-shaped, shorter than the corolla, concealed by its upper lip; anthers obtuse, coming together. Germen roundish, compressed. Style cylindrical, as long as the stamens; stigma abrupt, notched, bent downwards. Capsule roundish, obtuse, with a small point, one-celled, two-valved, invested by the enlarged calyx. Seeds numerous, roundish, attached to a spongy, longitudinal receptacle in the middle of each valve.—Name, from *lathraia*, concealed. 304.

1. *L. squamaria*. *Greater Toothwort*. Stem simple; flowers pendulous, their lower lip three-cleft.—Stem rounded, six or eight inches high: leaves egg-shaped, thick, entire, smooth, cream-coloured, imbricated: flowers axillary, solitary: corolla dull-purple, its upper lip deeply cleft. Perennial: flowers in April: grows in shady places, parasitic on the roots of trees: frequent. *Eng. Bot.* vol. i. pl. 50. *Eng. Fl.* vol. iii. p. 127. 903.

### 26. PEDICULARIS. LOUSEWORT.

Calyx of one leaf, with a roundish, tumid, somewhat compressed tube, with five, sometimes only two, unequal, leafy, jagged segments. Corolla gaping; tube oblong, unequal; upper lip narrower, erect, vaulted, compressed, notched; lower lip dilated, flat, deeply divided into three obtuse segments, the middle one narrower. Nectary a gland under the germen. Filaments thread-shaped, concealed by the upper lip; anthers two-lobed, acute at the lower part, compressed. Germen egg-shaped. Style thread-shaped, longer than the stamens; stigma simple, bent downwards. Capsule oblong, pointed, oblique, two-celled, two-valved, the partitions from the centre of each valve. Seeds few, angular, pointed, attached to a nearly globular receptacle at the base.—Name, from *pediculus*, a louse, it being supposed to cause sheep to be infested with ticks. 305.

1. *P. palustris*. *Marsh Lousewort*. Stem solitary, branched; calyx egg-shaped, hairy, ribbed, with two unequally notched lobes.—Stem erect, a foot high, much branched: leaves stalked, doubly pinnatifid: flowers axillary, opposite, solitary, rose-coloured. Annual: flowers in June and July: grows in marshes and wet pastures: common. *Eng. Bot.* vol. vi. pl. 399. *Eng. Fl.* vol. iii. p. 129. 904.

2. *P. sylvatica*. *Common Lousewort*. Stems several, spreading,

simple; calyx oblong, angular, smooth, with five unequal notched segments.—Stems about eight inches long, the central one erect, the others spreading: leaves twice pinnatifid, root-leaves egg-shaped, undivided, crenate: flowers bright rose-coloured. Perennial: flowers in July: grows in moist heathy pastures: common. *Eng. Bot.* vol. vi. pl. 400. *Eng. Fl.* vol. iii. p. 129. 905.

#### 27. LINARIA. TOAD-FLAX.

Calyx of one leaf, with five deep, oblong, permanent segments; the two lower more distant from each other. Corolla gaping, spurred at the base; upper lip cleft, reflected at the sides; lower lip obtuse, three-lobed, with an elevated palate, closing the mouth, and hollow beneath. Filaments concealed by the upper lip; anthers approaching each other. Germen roundish or egg-shaped. Style thread-shaped, as long as the stamens; stigma obtuse. Capsule roundish or oval, obtuse, two-celled. Seeds numerous, roundish, or angular, attached to an oblong, cylindrical receptacle, in the middle of the partition.—Name, from *linum*, flax, which the leaves resemble. 306.

1. *L. Cymbalaria*. *Ivy-leaved Toad-flax*. Leaves heart-shaped, five-lobed, alternate; stems procumbent.—Stems procumbent or pendulous, round, smooth, leafy: leaves alternate, stalked, shining: flowers pale-purple, with a yellow palate, and short pointed spur. Perennial: flowers from May to November: grows on old walls: common, but introduced. *Eng. Bot.* vol. vii. pl. 502. *Eng. Fl.* vol. iii. p. 131. 906.

2. *L. spüria*. *Round-leaved Toad-flax*. Leaves egg-shaped, downy, alternate; stems procumbent, hairy.—Stems branched, leafy: leaves mostly alternate, the lowermost only opposite: flowers on slender, axillar stalks: corolla with a recurved greenish spur, the upper lip purple, the lower yellow, with an orange palate. Annual: flowers from July to September: grows in corn-fields in England: rare. *Eng. Bot.* vol. x. pl. 691. *Eng. Fl.* vol. iii. p. 131. 907.

3. *L. Eldtine*. *Sharp-pointed Toad-flax*. Leaves halberd-shaped, alternate, the lowest egg-shaped, opposite; stems procumbent, hairy.—Upper lip of the corolla yellow, lower lip edged with deep purple. Annual: flowers from July to September: grows in corn-fields in England: frequent. *Eng. Bot.* vol. x. pl. 692. *Eng. Fl.* vol. iii. p. 132. 908.

4. *L. repens*. *Creeping Pale-blue Toad-flax*. Leaves linear, glaucous, scattered; calyx smooth, as long as the spur.—Smooth and glaucous: root creeping: stems about a foot high, numerous, branched, and paniced: leaves entire, erect, the upper alternate: flowers numerous, in paniced clusters: spur conical, pale-grey;

England and in Wales. *Eng. Bot.* vol. xviii. pl. 1253. *Eng. Fl.* vol. iii. p. 133. 909.

5. *L. vulgaris*. *Common Yellow Toad-flax*. Leaves between lance-shaped and linear, crowded; spikes terminal; flowers imbricated; calyx smooth, shorter than the spur.—The whole plant smooth: stems two feet high, densely covered with narrow acute leaves, with a terminal dense spike of yellow flowers, having an orange-coloured

palate. A variety occurs with a regular five-cleft, five-spurred corolla. Perennial: flowers in June and July: grows in hedges, and at the edges of fields: common. *Eng. Bot.* vol. x. pl. 658. *Var.* vol. iv. pl. 260. *Eng. Fl.* vol. iii. p. 134. 910.

6. *L. minor. Least Toad-flax.* Leaves lance-shaped, obtuse, downy, alternate; stems much branched, spreading; calyx longer than the spur.—Whole plant downy and clammy: stem from six to twelve inches high: flowers small, on long solitary, axillar stalks: tube, upper lip and spur purplish, lower lip white, with yellow palate. Annual: flowers from June to September: grows in sandy fields in England: rare. *Eng. Bot.* vol. xxviii. pl. 2014. *Eng. Fl.* vol. iii. p. 135. 911.

## 28. ANTIRRHINUM. SNAP-DRAGON.

Calyx of one leaf, with five deep, oblong, permanent segments, the two lower more distant from each other. Corolla gaping; tumid at the base; upper lip cleft; lower lip three-lobed, with an elevated palate closing the mouth, and hollow beneath. Filaments concealed by the upper lip; anthers approaching each other. Germen egg-shaped. Style thread-shaped; stigma obtuse. Capsule egg-shaped, oblique, two-celled. Seeds numerous, roundish.—Name, from *anti*, line, and *rhin*, a nose. 307.

1. *A. majus. Great Snap-dragon.* Corolla with a rounded prominence at the base; flowers in a dense cluster; leaves lance-shaped; segments of the calyx egg-shaped, obtuse.—Stem branched, leafy, downy, and clammy: leaves opposite or alternate, acute, recurved, smooth: flowers large, rose-coloured, with a large yellow palate, white in front. Perennial: flowers in June and July: grows on old walls: frequent, but is not indigenous. *Eng. Bot.* vol. ii. pl. 129. *Eng. Fl.* vol. iii. p. 135. 912.

2. *A. Orontium. Small Snap-dragon.* Corolla with scarcely any prominence at the base; flowers loosely spiked; calyx finger-shaped, longer than the corolla.—Stem about a foot high, branched, leafy: leaves lance-shaped, somewhat stalked, alternate: flowers axillar, nearly sessile: corolla rose-coloured, with a yellow palate. Annual: flowers in July and August: grows in dry sandy fields in England: frequent. *Eng. Bot.* vol. xvii. pl. 1155. *Eng. Fl.* vol. iii. p. 136. 913.

## 29. SCROPHULARIA. FIGWORT.

Calyx of one leaf, with five rounded, somewhat unequal, marginal segments, much shorter than the corolla. Corolla tubular, unequal, reversed; tube egg-shaped, large, inflated; limb very small, divided into five deep segments, the upper short, slightly notched, reflected, two lateral ones spreading, two lower largest, erect, often accompanied by a small internal lobe. Filaments declining, nearly as long as the corolla; anthers terminal, two-celled. Germen egg-shaped. Style simple, as long as the stamens; stigma simple. Capsule egg-shaped or globular, pointed, two-celled, two-valved; the partition formed by the edge of the valves turned in. Seeds numerous, small, attached to a globose central receptacle.—Named from the resemblance of the roots to scrofulous tumours. 308.

1. *S. nodosa*. *Knotted-rooted Figwort*. Leaves heart-shaped, acute, serrate, smooth; corners of the stem acute; root tuberous.—Stem from two to three feet high, nearly simple, smooth: leaves stalked, unequally serrate: flowers in a panicle, leafy cluster, with a dull-green corolla, having a livid purple lip. The whole plant emits a fetid, nauseating smell. Perennial: flowers in June and July: grows in woods and shady places: frequent. *Eng. Bot.* vol. xxii. pl. 1544. *Eng. Fl.* vol. iii. p. 137. 914.

2. *S. aquatica*. *Water Figwort*. Leaves heart-shaped, bluntish, decurrent on their stalks; stem winged, root fibrous.—Stem about three feet high, with membranous angles: cluster of many forked branches, with numerous flowers, with the tube green, and the limb dark-red: fetid like the last. Perennial: flowers in July: grows in watery places: frequent. *Eng. Bot.* vol. xii. pl. 854. *Eng. Fl.* vol. iii. p. 138. 915.

3. *S. Scorodonia*. *Balm-leaved Figwort*. Leaves heart-shaped, doubly serrate, downy beneath; cluster leafy.—Stems about three feet high, branched, bluntly four-cornered, covered with soft spreading hairs: flowers on axillar downy stalks, forming a leafy cluster: tube of the corolla pale, lower lip dull-purple. Perennial: flowers in July and August: grows on the banks of rivulets in Jersey and Cornwall, and in Ireland. *Eng. Bot.* vol. xxxi. pl. 2209. *Eng. Fl.* vol. iii. p. 139. 916.

4. *S. vernalis*. *Yellow Figwort*. Leaves heart-shaped, doubly serrate, downy; flower-stalks axillar, solitary, forked, leafy; corolla without an internal lobe.—The whole plant downy: stem about two feet high, with slightly winged corners: leaves opposite, the uppermost alternate, stalked, acute: flowers pale-yellow. Biennial: flowers in April and May: grows in hedges and thickets: rare. *Eng. Bot.* vol. viii. pl. 567. *Eng. Fl.* vol. iii. p. 139. 917.

### 30. DIGITALIS. FOXGLOVE.

Calyx of one leaf, deeply divided into five roundish, acute segments, the upper narrower. Corolla bell-shaped; tube large, cylindrical at the base, dilated and bulging upwards; limb small, with four unequal segments, the upper recurved and slightly cleft, the lower largest. Filaments awl-shaped, arising from the tube of the corolla, declining; anthers broad, two-lobed. Style thread-shaped, as long as the stamens; stigma cleft, acute. Capsule egg-shaped, pointed, two-celled, two-valved, with a double partition formed by the inflected margins of the valves.—Named from *digitabulum*, a thimble. 309.

1. *D. purpurea*. *Foxglove*. Segments of the calyx egg-shaped, acute; corolla obtuse, its upper lobe entire; leaves egg-shaped, downy.—Stem erect, from two to four feet high: leaves alternate, irregularly crenate, wrinkled and veined: cluster terminal, erect, simple, with numerous large, pendulous, crimson flowers, elegantly mottled, and hairy within. Infusion and tincture of the leaves are used in dropsy, and for diminishing the rapidity of the pulse in inflammations. This is one of the most elegant and showy of our native plants. Biennial: flowers in June and July: grows in dryilly pastures, on the steep banks of rivers, in rocky places, &c.: common. *Eng. Bot.* vol. xix. pl. 1297. *Eng. Fl.* vol. iii. p. 140. 918.

## 31. LINNÆA. LINNÆA.

Calyx double ; that of the fruit inferior, four-leaved ; the inner leaves minute, acute, smooth, the two outer much larger, elliptical, glandular ; that of the flower superior, of one leaf, deeply divided into five erect, lance-shaped, acute, equal segments. Corolla of one petal, bell-shaped, with the tube cylindrical, dilated upwards, about twice as long as the upper calyx, the limb divided into five nearly equal, spreading segments. Filaments awl-shaped, arising from the base of the corolla, shorter than its limb ; anthers oblong, compressed. Germen globular, three-celled. Style cylindrical, as long as the corolla, declining ; stigma obtuse. Berry dry, oblong, one-celled, invested by the lower calyx, and crowned by the upper. Seed solitary, oblong.—So named by Pronovius, in honour of Carl von Linné, the greatest naturalist. 310.

1. *L. borealis*. *Two-flowered Linnæa*.—Root fibrous : stems prostrate and creeping, forming large patches : leaves opposite, stalked, egg-shaped, slightly hairy : flowering branches axillar, erect, bearing two pendulous whitish flowers. Perennial : flowers in May and June : grows in dry fir woods, in various parts of Scotland. First found by Professor James Beattie, junior, at Inglesmaldie, in Mearns-shire ; Hill of Kinnoul, near Perth ; Kenmay, near Aberdeen ; in a wood near Fintray-house, on the river Don ; many other woods in Aberdeenshire ; Knock of Alves, near Elgin ; Drummond Wood, near Inverness, and many other places in Scotland. *Eng. Bot.* vol. vii. pl. 433. *Eng. Fl.* vol. iii. p. 190. 919.

## 32. SIBTHORPIA. SIBTHORPIA.

Calyx top-shaped, with five deep, egg-shaped, nearly equal, spreading segments. Corolla irregularly wheel-shaped, as long as the calyx, with a very short tube, its limb divided into five deep egg-shaped spreading segments, the two lower smallest. Filaments shorter than the corolla, almost equal, awl-shaped, spreading laterally, and coming together in parts ; anthers oblong, two-lobed. Germen rounded, compressed. Style cylindrical, as long as the filaments ; stigma knobbed, flattened. Capsule inversely heart-shaped, compressed, two-celled, two-valved, each valve with a narrow transverse partition. Seeds few, egg-shaped, attached to a central globular receptacle.—Named after Dr. H. Sibthorp, an Oxford professor of botany. 311.

1. *S. Europæa*. *Cornish Money-wort*.—Stems numerous, a foot long, thread-like, prostrate : leaves stalked, kidney-shaped, bluntly crenate : flowers on short axillar, simple stalks : corolla small, whitish. Perennial : flowers in July and August : grows in moist shady places in the south-west of England, and the Channel Islands. *Eng. Bot.* vol. x. pl. 649. *Eng. Fl.* vol. iii. p. 143. 920.

## 33. LIMOSELLA. MUDWORT.

Calyx of one leaf, with five shallow, acute, erect, lance-shaped segments. Corolla bell-shaped, erect, equal, with a cylindrical



tube, and five small, acute segments. Filaments awl-shaped, arising from the mouth of the tube, almost equal, approaching each other in pairs; anthers roundish, two-lobed. Germen egg-shaped, obtuse. Style tapering, short; stigma globose, cleft. Capsule egg-shaped, two-celled, two-valved; the partition from the inflexed margin of the valves. Seeds numerous, oblong, furrowed, attached to a large, egg-shaped, central receptacle.—Name, from *limus*, mud. 312.

1. *L. aquatica*. *Mudwort*. Leaves lance-shaped. — Root fibrous, throwing out long naked runners: leaves of long stalks: flowers on shortish axillar stalks: corolla whitish. Annual: flowers in July and August: grows in muddy places, which have been covered by water: frequent. *Eng. Bot.* vol. v. pl. 357. *Eng. Fl.* vol. iii. p. 145. 921.

### 34. OROBANCHE. BROOM-RAPE.

Calyx of two opposite, acute, permanent leaves. Corolla gaping, withering; tube egg-shaped, curved; upper lip concave, notched; lower lip reflected, with three unequal lobes. Nectary a gland under the germen. Filaments awl-shaped, concealed under the upper lip; anthers two-lobed, rounded at the top, pointed below. Germen oblong. Style cylindrical, incurved, as long as the stamens; stigma large, with two or three globular lobes. Capsule egg-shaped, pointed, one-celled, two-valved. Seeds very numerous, minute, covering the two longitudinal receptacles.—Name, from *orobos*, a vetch, and *anchein*, to strangle. 313.

1. *O. major*. *Greater Broom-rape*. Stem simple; corolla inflated, its upper lip slightly notched, the lower with acute, nearly equal segments; stamens smooth, style downy.—Stem about a foot high, erect, dusky, fleshy, covered with short, glandular hairs, and scattered, lance-shaped, erect scales: spike terminal, of about twenty flowers, with a purplish-brown corolla. Perennial: flowers in June and July: grows in gravelly soil, on the roots of broom and furze: frequent. *Eng. Bot.* vol. vi. pl. 421. *Eng. Fl.* vol. iii. p. 146. 922.

2. *O. caryophyllacea*. *Clove-scented Broom-rape*. Stem simple; tube of the corolla inflated above, its upper lip broad, notched, its lower with three lobes; stamens hairy; style downy; stigma dark-purple.—Perennial: flowers in July: discovered by Mr. G. E. Smith on the roots of *Galium Mollugo*, *Rubus fruticosus*, &c. in South Kent. *Eng. Bot. Suppl.* pl. 2639. *Brit. Fl.* 4th ed. p. 241. 923.

3. *O. elatior*. *Tall Broom-rape*. Stem simple; corolla funnel-shaped, its lower lip with segments; stamens downy; style smooth.—Perennial: flowers in July and August: grows on gravelly soil, but not on the roots of broom or furze. *Eng. Bot.* vol. viii. pl. 568. *Eng. Fl.* vol. iii. p. 147. 924.

4. *O. minor*. *Less Broom-rape*. Stem simple; corolla nearly cylindrical, its lower lip with curled segments, the middle one largest and lobed; stamens fringed; style smooth.—Perennial: flowers in July and August: grows in clover fields in England and Wales: frequent. *Eng. Bot.* vol. vi. pl. 422. *Eng. Fl.* vol. iii. p. 148. 925.

5. *O. rubra*. *Red Broom-rape*. Stem simple; corolla somewhat tumid; upper lip cleft, lower in three nearly equal, obtuse lobes; stamens fringed; style partially hairy.—Stem about eight inches high, simple, swelled at the lower part, purplish-red, tinged with yellow: scales dark-brown: calyx-leaves lance-shaped: spike of rather close flowers, dusky-red. The whole plant, excepting the scales, is covered with very short glandular hairs. Annual: flowers in July: grows in gravelly soil, in rocky places, in Scotland and Ireland; near Seafeld Tower, on the coast of Fife, on disintegrated trap; island of Staffa, on basaltic rocks; island of Harris, at Craigh-camna, on Gneiss. *Eng. Bot.* vol. xxv. pl. 1786. *Eng. Fl.* vol. iii. p. 148. 926.

6. *O. cœrulea*. *Purple Broom-rape*. Stem simple; bractæas three; upper lip of the corolla cleft and notched, lower in three equal lance-shaped segments; style downy.—Stem a foot high, dark-grey, angular: scales brown: calyx-leaves united, cleft: corolla funnel-shaped, greyish-purple: filaments smooth. The whole plant minutely downy. Perennial: flowers in July: grows in grassy pastures near the sea, the root parasitical on other plants: rare. *Eng. Bot.* vol. vi. pl. 423. *Eng. Fl.* vol. iii. p. 149. 927.

7. *O. ramosa*. *Branched Broom-rape*. Stem branched; bractæas three; upper lip of the corolla deeply cleft, lower with three equal lobes, all the segments rounded; style smoothish.—Flowers light-purple, in a loose spike. Annual: flowers in August and September: grows in moist fields, parasitical on the roots of hemp: rare. *Eng. Bot.* vol. iii. pl. 184. *Eng. Fl.* vol. iii. p. 150. 928.

## CLASS XV. TETRADYNAMIA.

*Plants bearing Flowers with Six Stamens, of which four are longer than the other two.*

*(The flowers have invariably four petals.)*

Order I. SILICULOSA. *Seeds inclosed in a short pod or pouch.*

\* *Pouch entire at the top.*

2. DRA'BA. *Pouch* entire, oval; valves nearly flat. *Seeds* numerous.
5. HUTCHIN'SIA. *Pouch* entire; valves keeled, not bordered. *Seeds* at least two in each cell.
3. ALYSSUM. *Pouch* entire, bordered, laterally compressed, with concave valves. *Seeds* one or two in each cell.
10. COCHLEARIA. *Pouch* nearly entire, turgid, wrinkled, two-valved. *Seeds* numerous.
1. SUBULARIA. *Pouch* entire, transversely compressed, with tumid valves. *Seeds* numerous.
4. CAMELINA. *Pouch* entire, with tumid valves. *Seeds* numerous.
11. SENEBIERA. *Pouch* nearly entire, transversely compressed, wrinkled, two-celled, two-valved. *One seed* in each cell.

12. CRAMBE. *Pouch* globose, stalked, leathery, one-celled, without valves, deciduous. *Seed* solitary.
13. CAKILE. *Pouch* angular, of two one-seeded joints, the upper deciduous.

\*\* *Pouch notched at the top.*

9. IBERIS. *Pouch* cleft, inversely heart-shaped. One *seed* in each cell. Two *outer petals* largest.
8. TEESDALIA. *Pouch* cleft, inversely heart-shaped, with keeled valves. *Seeds* two in each cell. *Filaments* bearing a scale at the base.
7. THLASPI. *Pouch* cleft, inversely heart-shaped; valves with a bordered keel. *Seeds* numerous.
6. LEPIDIUM. *Pouch* cleft, elliptical, two-celled; valves keeled. One *seed* in each cell.

Order II. SILIQUOSA. *Seeds inclosed in a long Pod.*

15. CARDAMINE. *Pod* linear; valves flat, without ribs, narrower than the partition. *Seeds* in two rows, on hair-like stalks.
14. DENTARIA. *Pod* lance-shaped; valves flat, without ribs, narrower than the partition. *Seeds* on flat dilated stalks.
16. ARABIS. *Pod* linear; valves flat, veined or ribbed. *Seeds* in one row.
17. TURRITIS. *Pod* linear; valves flat, keeled. *Seeds* in two rows.
18. NASTURTIUM. *Pod* nearly cylindrical; valves concave, without keels. *Stigma* obtuse, notched. *Calyx* spreading.
19. SISYMBRIUM. *Pod* nearly cylindrical. *Stigma* knobbed, notched. *Calyx* spreading.
20. MATTHIOLA. *Pod* nearly cylindrical, straight. *Stigma* of two converging lobes. *Calyx* closed, two of its leaves prominent at the base.
21. BARBAREA. *Pod* four-cornered, two-edged. *Seeds* in one row. *Calyx* erect. Glands at the inside of the shorter *filaments*.
22. ERYSIMUM. *Pod* four-cornered. *Stigma* knobbed, notched. *Calyx* closed.
23. HESPERIS. *Pod* four-cornered. *Stigma* with two converging lobes. *Calyx* closed, with two protuberances at the base.
24. CHEIRANTHUS. *Pod* compressed, or two-edged. *Stigma* knobbed, or with two spreading lobes. *Calyx* closed; two of its leaves prominent at the base.
25. BRASSICA. *Pod* nearly cylindrical, beaked, two-valved. *Seeds* nearly globular. *Calyx* closed.
26. SINAPIS. *Pod* nearly cylindrical, somewhat beaked, two-valved. *Seeds* nearly globular. *Calyx* spreading.
27. RAPHANUS. *Pod* with imperfect bulging joints, without valves. *Seeds* globular.

## TETRADYNAMIA.—SILICULOSA.

### 1. SUBULARIA. AWL-WORT.

*Calyx* erect, deciduous, of four equal, oval leaves. *Petals* four, inversely egg-shaped, entire, their claws shorter than the *calyx*. *Filaments* simple; *anthers* two-lobed. *Germen* egg-

shaped, compressed. Style none; stigma obtuse. Pouch egg-shaped, transversely compressed, entire, two-celled, two-valved; the valves deeply concave; partition membranous, elliptical, parallel to the valves, crossing the narrowest diameter of the pouch. Seeds egg-shaped; four or more in each cell.—Name, from *subula*, an awl. 314.

1. *S. aquatica*. *Water Awl-wort*. Root of numerous white fibres: leaves awl-shaped, spreading: flowers in a simple, stalked cluster, arising from the root: petals white. Annual: flowers in July: grows in shallow water, in sand or gravel, near the edges of Alpine lakes: frequent. *Eng. Bot.* vol. xi. pl. 732. *Eng. Fl.* vol. iii. p. 157. 929.

## 2. DRA'BA. WHITLOW-GRASS.

Calyx of four, somewhat spreading, egg-shaped valves, equal at the base. Petals spreading, with short claws. Filaments awl-shaped; anthers two-lobed. Germen egg-shaped. Style very short; stigma knobbed, flat. Pouch oblong, compressed, entire, two-celled; the valves nearly flat; partition membranous. Seeds several in each cell, small, roundish.—Name, from *drabe*, acrid. 315.

1. *D. verna*. *Common Whitlow-grass*. Stem leafless; petals deeply cleft; leaves lance-shaped, toothed, hairy.—Leaves arranged in a star-like form on the ground: flowers white, in a corymbose cluster. Annual: flowers in March and April: grows on walls and dry loose soil: common. *Eng. Bot.* vol. ix. pl. 586. *Eng. Fl.* vol. iii. p. 158. 930.

2. *D. aizoides*. *Yellow Alpine Whitlow-grass*. Stem leafless; petals slightly notched, twice as long as the calyx; leaves lance-shaped, stiff, glossy, fringed and keeled.—Flowers of a bright-yellow colour: pouch with a long style. Perennial: flowers in March and April: grows on walls and rocks about Swansea, Wales. *Eng. Bot.* vol. xviii. pl. 1271. *Eng. Fl.* vol. iii. p. 158. 931.

3. *D. rupéstris*. *Hairy Whitlow-grass*. Stem nearly leafless; petals undivided; leaves lance-shaped, slightly toothed, fringed with simple hairs.—Stalk solitary, two or three inches high, round, leafless, or with a single leaf, near the bottom: flowers small, white, in a dense corymb. Perennial: flowers in May and June: grows on high mountains in Scotland: rare. *Eng. Bot.* vol. xix. pl. 1338. *D. hirta*. *Eng. Fl.* vol. iii. p. 159. 932.

4. *D. incdna*. *Twisted-podded Whitlow-grass*. Stem-leaves numerous, lance-shaped, hoary, like the stem, with starry hairs; pouch oblong, oblique or twisted, longer than the hairy flower-stalks.—Stem from two to twelve inches high. Root-leaves arranged in a star-like form: flowers numerous, white, with inversely heart-shaped petals. Biennial: flowers in May and June: grows in rocky places, on the mountains of Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. vi. pl. 388. *Eng. Fl.* vol. iii. p. 160. 933.

5. *D. muralis*. *Speedwell-leaved Whitlow-grass*. Stem branched; leaves heart-shaped, toothed, hairy; pouch elliptical, obtuse, flat, shorter than the partial stalks.—Stem erect, about a foot high, leafy, rough with starry hairs: flowers very numerous, small, white.

Annual : flowers in April and May : grows on walls in England and Ireland : not common. *Eng. Bot.* vol. xiii. pl. 912. *Eng. Fl.* vol. iii. p. 161. 934.

### 3. ALYS'SUM. ALYSSUM.

Calyx of four egg-shaped equal leaves. Petals egg-shaped, flat, spreading, with short claws. Filaments about the length of the calyx ; anthers two-lobed. Germen round or elliptical, compressed. Style short ; stigma small, simple. Pouch round, oval, or inversely egg-shaped, compressed, two-celled ; valves flattish ; partition membranous. Seeds one or two in each cell, oval, compressed.—Named from *a*, privative, and *lysson*, rage. 316.

1. *A. maritimum*. *Sweet Alyssum*. Stem somewhat woody, much branched ; leaves lance-shaped, acute, entire, hoary with close hairs ; seeds solitary.—Flowers abundant, in dense corymbose clusters : petals white. Perennial : flowers in August and September : grows on banks and rocks near the sea : rare, but is not indigenous. Found in the south of England, and near Aberdeen. *Eng. Bot.* vol. xxv. pl. 1729. *Eng. Fl.* vol. iii. p. 163. 935.

### 4. CAMELINA. CAMELINA.

Calyx of four oblong, equal, spreading, deciduous leaves. Petals oblong, undivided, with shortish claws. Filaments thread-shaped ; anthers heart-shaped. Germen roundish. Style cylindrical, erect ; stigma obtuse. Pouch inversely egg-shaped, two-celled, the valves concave, the partition membranous. Seeds numerous in each cell, oblong, compressed.—Name, *chamælinum*, dwarf-flax. 317.

1. *C. sativa*. *Gold of pleasure*. Pouches inversely heart-shaped, bordered twice the length of the style ; leaves lance-shaped, arrow-shaped at the base.—Stem erect, about two feet high : flowers small, pale-yellow. Annual : flowers in June : grows in cultivated ground, chiefly among flax, with which it has been imported : rare. *Eng. Bot.* vol. xviii. pl. 1254 : *Alyssum sativum*. *Eng. Fl.* vol. iii. p. 164. 936.

### 5. HUTCHINSIA. HUTCHINSIA.

Calyx of four elliptical, equal, spreading, deciduous leaves. Petals inversely egg-shaped, entire. Filaments awl-shaped ; anthers roundish. Germen oval, compressed. Style compressed ; stigma obtuse. Pouch elliptical, compressed, nearly entire, two-celled ; valves keel-shaped ; partition narrow, crossing the greater diameter of the pouch. Seeds two or more in each cell, egg-shaped.—Named after *Miss Hutchins*, an Irish botanist. 318.

1. *H. petre'a*. *Rock Hutchinsia*. Leaves pinnate, entire ; petals scarcely as long as the calyx ; stigma sessile ; seeds two in each cell.—Stems two or three inches high, erect, branched : flowers minute, white, corymbose. Annual : flowers in March and April : grows on rocks and walls in the west of England, and in Wales : frequent. *Eng. Bot.* vol. ii. pl. 211 : *Lepidium petræum*. *Eng. Fl.* vol. iii. p. 168. 937.

## 6. LEPIDIUM. PEPPER-WORT.

Calyx of four egg-shaped, concave, deciduous leaves. Petals inversely egg-shaped, undivided, with narrow claws. Filaments awl-shaped, as long as the calyx; anthers two-lobed. Germen roundish. Style slender; stigma obtuse. Pouch round or oblong, compressed, notched at the top, two-celled; the valves keel-shaped; partition very narrow, crossing the greater diameter of the pouch. Seeds one in each cell, egg-shaped.—Named from *lepis*, a scale. 319.

1. *L. latifolium*. *Broad-leaved Pepper-wort*. Leaves between lance-shaped and egg-shaped, undivided, serrate.—Stems three feet high, branched; flowers numerous, very small, white, in compound leafy paniced clusters. Perennial: flowers in July: grows in marshes and meadows near the sea: rare. *Eng. Bot.* vol. iii. pl. 182. *Eng. Fl.* vol. iii. p. 165. 938.

2. *L. Draba*. *Whitlow Pepper-wort*. Leaves lance-shaped, clasping the stem.—About a foot high, with large, distant leaves, and corymbs of numerous white flowers: pouch heart-shaped, with the style about its own length. Perennial: flowers in June: grows in fields and hedges in several places in the south of England, where it has been naturalized. *Eng. Bot. Suppl.* pl. 2683. *Brit. Fl.* 4th ed. p. 247. 939.

3. *L. ruderic*. *Narrow-leaved Pepper-wort*. Lower leaves pinnatifid, toothed; upper linear, entire; stamens two; petals none.—The whole plant smooth, glaucous: stem about ten inches high: flowers sometimes have the petals. Annual: flowers in June: grows in waste ground: frequent. *Eng. Bot.* vol. xxiii. pl. 1595. *Eng. Fl.* vol. iii. p. 166. 940.

4. *L. campestre*. *Mithridate Pepper-wort*. Pouch covered with minute scales, notched, bordered at the top; style very short; stem-leaves arrow-shaped, toothed.—More or less downy and glaucous: lowest leaves inversely egg-shaped: flowers numerous, small, white, corymbose. Annual: flowers in July: grows in cultivated fields: frequent. *Eng. Bot.* vol. xx. pl. 1385: *Thlaspi campestre*. *Eng. Fl.* vol. iii. p. 166. 941.

5. *L. Smithii*. *Hairy Mithridate Mustard*. Pouch egg-shaped, notched, not scaly, bordered at the top; style prominent; stem-leaves arrow-shaped, toothed.—Stems hairy, from six to eight inches high: flowers white. Perennial: flowers in June: grows on the edges of fields. *Eng. Bot.* vol. xxvi. pl. 1803: *Lepidium hirtum*. *Eng. Fl.* vol. iii. p. 167. 942.

## 7. THLASPI. SHEPHERD'S-PURSE.

Calyx of four egg-shaped, concave, spreading, equal leaves. Petals egg-shaped, equal, undivided, with short claws. Filaments slender; anthers heart-shaped, acute. Germen roundish, notched or inversely heart-shaped. Style short; stigma obtuse. Pouch compressed, roundish or inversely heart-shaped, two-celled; valves keeled, generally bordered; partition elliptical, crossing the greater diameter of the pouch. Seeds egg-shaped, several in each cell.—Named from *thlao*, to flatten. 320.

1. *T. arvense*. *Mithridate Mustard*. *Penny-cress*. Pouch round, nearly flat, shorter than its stalk; leaves smooth, oblong, toothed.

—About a foot high, branched, smooth: flowers small, white, in dense corymbs: pouches very large, with a deep notch. The seeds have a strong flavour of garlic. Annual: flowers in June and July: grows in cultivated and waste ground: frequent. *Eng. Bot.* vol. xxiv. pl. 1659. *Eng. Fl.* vol. iii. p. 171. 949.

2. *T. perfoliatum*. *Perfoliate Shepherd's-purse*. Pouch inversely heart-shaped; stem-leaves heart-shaped, smooth, somewhat toothed; style very short.—Glaucous, smooth: stem branched: root-leaves stalked, egg-shaped: stem-leaves sessile, somewhat arrow-shaped: flowers small, white, densely corymbose. Perennial: flowers in April and May: grows in pastures, in Oxfordshire and Gloucestershire: rare. *Eng. Bot.* vol. xxxiii. pl. 2354. *Eng. Fl.* vol. iii. p. 172. 944.

3. *T. alpêtre*. *Alpine Shepherd's-purse*. Pouch inversely egg-shaped, abrupt, with a prominent style; stem-leaves arrow-shaped; stems simple.—Smooth and glaucous: stems about six inches high, leafy: root-leaves egg-shaped, in dense tufts: flowers small, white, with slightly notched petals. Perennial: flowers in June and July: grows in mountainous pastures, in the north of England: rare. Glen Clova, Scotland. *Eng. Bot.* vol. ii. pl. 81. *Eng. Fl.* vol. iii. p. 173. 945.

4. *T. Bursa-pastoris*. *Common Shepherd's-purse*. Pouch inversely heart-shaped, somewhat triangular; root-leaves pinnatifid, hairy.—Stem branched, about a foot high: flowers small, white, corymbose. Annual: flowers from March to November: grows in cultivated ground and by road-sides: common. *Eng. Bot.* vol. xxi. pl. 1485. *Eng. Fl.* vol. iii. p. 173. 946.

### 8. TEESDALIA. TEESDALIA.

Calyx of four egg-shaped, concave, nearly equal, spreading leaves. Petals inversely egg-shaped, undivided, spreading, two generally much larger. Filaments cylindrical, incurved, shorter than the corolla, each bearing an egg-shaped scale on the inner side; anthers of two round lobes. Germen roundish, two-lobed; stigma globular, sessile. Pouch compressed, roundish, concave on one side, bordered and cleft at the top, two-celled; the valves boat-like, with dilated keels; partition lance-shaped, narrow, contrary to the greater diameter of the pouch. Seeds two in each cell, roundish, compressed.—Named after *Mr. Teesdale*, an English botanist. 321.

1. *T. nudicaulis*. *Naked-stalked Teesdalia*. Root-leaves pinnatifid; petals unequal.—Stems several, the central one straight and leafless: flowers white. Annual: flowers in May and June: grows in dry pastures and gravelly places: very common in many parts of Scotland. *Eng. Bot.* vol. v. pl. 327. *Eng. Fl.* vol. iii. p. 170. 947.

### 9. IBERIS. CANDY-TUFT.

Calyx of four egg-shaped, concave, equal, spreading leaves. Petals inversely egg-shaped, undivided, unequal, with short claws. Filaments awl-shaped, about the length of the calyx; anthers roundish. Germen round, compressed, notched; style very short; stigma obtuse. Pouch egg-shaped, compressed, bordered, two-celled, cleft into two acute lobes; valves boat-

shaped, with a dilated pointed keel; partitions membranous, as wide as the valves. Seeds one in each cell, egg-shaped.— Named from *Iberia*, or *Spain*. 322.

1. *I. amdra*. *Bitter Candy-tuft*. Stem herbaceous; leaves lance-shaped, acute, partly crenate: flowers in oblong clusters.— Smooth: stems branched, leafy: flowers white. Annual: flowers in July: grows in corn-fields, but is not indigenous: rare. About Henley in Oxfordshire, and Wallingford in Berkshire. *Eng. Bot.* vol. i. pl. 52. *Eng. Fl.* vol. iii. p. 181. 948.

#### 10. COCHLEARIA.\* SCURVY-GRASS.

Calyx of four egg-shaped, concave, spreading leaves. Petals inversely egg-shaped, undivided, twice the length of the calyx, with short claws. Filaments awl-shaped, incurved, as long as the calyx; anthers roundish. Germen roundish. Styles very short, permanent; stigma obtuse. Pouch globular, egg-shaped, or elliptical, turgid, wrinkled, veiny, two-celled; valves concave; partition round or elliptical, membranous. Seeds several in each cell, roundish.—Name from *cochleare*, a spoon. 323.

1. *C. officinalis*. *Common Scurvy-grass*. Root-leaves roundish, stalked; stem-leaves oblong, sessile, somewhat sinuated; pouch globular.—Smooth and shining stem angular, much branched, decumbent: flowers white, in numerous corymbose clusters. A variety occurs on elevated mountains, differing chiefly in its small size. Annual: flowers in May: grows abundantly on the sea-coast, and along rivers near the sea; also in rocky places of the high mountains of Scotland and Wales. *Eng. Bot.* vol. viii. pl. 551. *Eng. Fl.* vol. iii. p. 175. 949.

2. *C. Anglica*. *English Scurvy-grass*. Root-leaves egg-shaped, entire; stem-leaves sessile, lance-shaped, toothed; pouch elliptical, strongly reticulated with veins.—The principal difference between this and the last is in the form of the pouch. Annual: grows in muddy places on the sea-shore, and along rivers near the mouth, as well as on elevated mountains: frequent. *Eng. Bot.* vol. viii. pl. 552. *Eng. Fl.* vol. iii. p. 176. 950.

3. *C. Dénica*. *Danish Scurvy-grass*. Leaves all triangular and stalked; pouch elliptical.—Stems three or four inches long, spreading or prostrate: flowers white. Annual: flowers in May and June: grows on the sea-coast: frequent. *Eng. Bot.* vol. x. pl. 696. *Eng. Fl.* vol. iii. p. 177. 951.

4. *C. Armoracia*. *Horse-radish*. Root-leaves oblong, crenate; stem-leaves lance-shaped, cut.—Root long, cylindrical: stem two feet high, erect: flowers white. The root is pungent, and used as a condiment. Perennial: flowers in May: grows in waste ground, but is not indigenous. *Eng. Bot.* vol. xxxiii. pl. 2323. *Eng. Fl.* vol. iii. p. 178. 952.

#### 11. SENEBIÆRA. WART-CRESS.

Calyx of four egg-shaped, concave, spreading leaves. Petals egg-shaped, undivided. Filaments awl-shaped, as long as the calyx; anthers roundish, two-lobed. Germen roundish, or two-



lobed, compressed. Style very short; stigma obtuse. Pouch roundish, compressed, two-lobed, two-celled, not bursting; valves globular or rounded, wrinkled, each lodging a solitary roundish seed.—Name, in honour of *M. Senebier*, of Geneva, an eminent botanist. 324.

1. *S. Coronopus*. *Swine's-cress*. *Wart-cress*. Pouch undivided, crested, with little sharp points; style prominent, leaves pinnatifid; subdivided.—Root tapering: stems prostrate, branched, leafy: leaves deeply divided, smooth: flowers white, in dense corymbs. Annual: flowers from June to September: grows in waste ground and by way-sides: not uncommon in England, but rare in Scotland. *Eng. Bot.* vol. xxiv. pl. 1660. *Eng. Fl.* vol. iii. p. 179. 953.

2. *S. didyma*. *Less Wart-cress*. Pouch cleft, of two round wrinkled lobes; style very short; leaves pinnatifid, partly crenate.—Root fibrous, small: stems procumbent, about a foot long, branched: leaves smooth, flat: flowers small, white, with two or four stamens only. Annual: flowers in July: grows in waste ground, in Devonshire and Cornwall, and in Ireland. *Eng. Bot.* vol. iv. pl. 248: *Lepidium didymum*. *Eng. Fl.* vol. iii. p. 180. 954.

## 12. CRAMBÆ. SEA-KALE.

Calyx of four oblong, concave, spreading leaves. Petals large, obtuse, broad, spreading. Filaments awl-shaped, the four longest with a sharp lateral tooth; anthers oblong. Germen oblong. Style none; stigma obtuse. Pouch finally leathery, of two joints, each one-celled, not bursting, the lower abortive, the upper globular and deciduous. Seed solitary, globular.—Name, *crambos*, of the Greeks. 325.

1. *C. maritima*. *Sea-Kale*. Leaves roundish, sinuated, toothed, glaucous, smooth.—Root large and fleshy: stems two feet high, branched, spreading, smooth and glaucous: leaves stalked, leathery: flowers large, white, in terminal clusters. The young leaves are boiled as cabbage. Perennial: flowers in May and June: grows in sand on the sea-coast: not common. *Eng. Bot.* vol. xxiii. pl. 924. *Eng. Fl.* vol. iii. p. 184. 955.

## 13. CAKILE. SEA-ROCKET.

Calyx of four erect, oblong, deciduous leaves, two opposite ones protuberant at the base. Petals inversely egg-shaped, obtuse, spreading, their claws as long as the calyx. Filaments awl-shaped, simple; anthers oblong, cleft at the base. Germen oblong. Style none; stigma obtuse. Pouch of two joints, angular, compressed, the lower often abortive, the upper oblong, with a tapering point, deciduous, each one-celled, not bursting. Seeds one in each cell, elliptical.—Name, an old Arabic word. 326.

1. *C. maritima*. *Sea-Rocket*. Joints of the pouch two-edged, the upper one arrow-shaped; leaves fleshy, pinnatifid, obtuse.—The whole plant smooth and glaucous: stem a foot high, much

branched: leaves scattered: flowers large, densely corymbose: petals lilac. Annual: flowers from June to September: grows on the sea-shore, in sand: common. *Eng. Bot.* vol. iv. pl. 231: *Bunias Cakile.* *Eng. Fl.* vol. ii. p. 183. 956.

## SILIKUOSA.

## 14. DENTARIA. CORALWORT.

Calyx of four oblong, erect leaves. Petals inversely egg-shaped, obtuse, horizontal, with erect claws, shorter than the calyx. Filaments awl-shaped, as long as the calyx; anthers arrow-shaped, erect. Germen oblong. Style short and thick; stigma obtuse. Pod sessile, lance-shaped, compressed, tapering upwards; valves flat, without ribs, narrower than the partitions. Seeds egg-shaped, not bordered, inserted alternately in a single row, by dilated and winged stalks.—Named from *dens*, a tooth, the root having projecting angles resembling teeth. 927.

1. *D. Bulbifera.* *Bulbiferous Coralwort.* Lower leaves pinna-tid, upper simple, with axillar bulbs.—Stem erect, leafy, two feet high: leaves alternate, bright-green: flowers purple, corym-bosc. Perennial: flowers in April and May: grows in moist shady places in England: rare. *Eng. Bot.* vol. v. pl. 309. *Eng. Fl.* vol. iii. p. 186. 957.

## 15. CARDAMINE. CARDAMINE.

Calyx of four oblong, blunt, slightly spreading leaves, two of them protuberant at the base. Petals inversely egg-shaped, undivided, tapering into short claws. Filaments awl-shaped, the two shorter with a gland at the base; anthers small heart-shaped, acute, recurved. Germen linear, slender. Style very short; stigma obtuse. Pod erect, linear, compressed; valves flat, without ribs, scarcely narrower than the bordered partition. Seeds egg-shaped, not bordered, inserted alternately in a single row, by short and slender stalks.—Name, from *cardia*, the heart, and *damao*, to strengthen. 928.

1. *C. impatiens.* *Narrow-leaved Cardamine.* Leaves pinnate, with lance-shaped leaflets; stipules fringed.—About a foot high, flowers minute, white. Annual: flowers in May and June: grows in mountainous meadows, by the sides of streams: rare. *Eng. Bot.* vol. ii. pl. 80. *Eng. Fl.* vol. iii. p. 187. 958.

2. *C. hirsuta.* *Hairy Cardamine.* Leaves pinnate, without sti-pules; leaflets stalked, roundish.—From three inches to a foot high, more or less hairy: flowers small, white, corymbose. An-nual: flowers from March to July: grows in loose soil, in shady places: common. *Eng. Bot.* vol. vii. pl. 492. *Eng. Fl.* vol. iii. p. 188. 959.

3. *C. pratensis.* *Ladies' Smock. Cuckoo-flower.* Leaves pin-nate, without stipules; leaflets of the radical ones roundish, toothed; those of the stem-leaves lance-shaped, entire; petals with a tooth on the claw.—About a foot high: flowers large, in corymbs, pale-purple, lilac or white. Perennial: flowers in May:

grows in most meadows and watery places: common. *Eng. Bot.* vol. xi. pl. 776. *Eng. Fl.* vol. iii. p. 189. 960.

4. *C. amara*. *Bitter Cardamine*. Leaves pinnate, without stipules: leaflets of the lower more roundish, of the rest angular or toothed; stem creeping at the base.—Stems from one to two feet high: flowers large, white. Perennial: flowers in April and May: grows in wet meadows: frequent. *Eng. Bot.* vol. xi. pl. 776. *Eng. Fl.* vol. iii. p. 189. 961.

#### 16. ARABIS. WALL-CRESS.

Calyx of four oblong, converging, erect, deciduous leaves, two opposite ones somewhat larger, and protuberant at the base. Petals oblong, undivided, spreading, tapering into broadish claws, hardly so long as the calyx. Filaments thread-shaped, erect, generally with four glands at their base externally; anthers heart-shaped. Germen linear. Style very short; stigma obtuse. Pod linear, compressed; its valves nearly flat, ribbed or veined, slightly undulated by the seeds; partition linear, membranous. Seeds in one row, oval or round, compressed.—So named because originally an Arabian genus. 329.

1. *A. Thalidna*. *Common Wall-cress*. Leaves hairy, toothed; root-leaves stalked, oblong, the rest sessile.—About a foot high, branched: flowers small, white, corymbose. Annual: flowers in April: grows on walls, and in dry sandy ground: common. *Eng. Bot.* vol. xiii. pl. 901. *Eng. Fl.* vol. iii. p. 209. 962.

2. *A. stricta*. *Bristol Rock-cress*. Leaves toothed, obtuse, bristly; those of the root somewhat lyrate; stem hairy; calyx smooth.—Stem from three to six feet high, round, leafy; flowers few, corymbose, erect, cream-coloured. Perennial: flowers in May: grows in rocky places, about Bristol: rare. *Eng. Bot.* vol. ix. pl. 614. *Eng. Fl.* vol. iii. p. 210. 963.

3. *A. petraea*. *Alpine Rock-cress*. Root-leaves lyrate, smooth or with scattered hairs; stem-leaves lance-shaped, entire, scattered; petals spreading.—Stem from three to ten inches high, ascending: root-leaves in tufts: flowers small, white. Perennial: flowers in July: grows in the fissures of rocks on high mountains in Wales and Scotland: frequent. *Eng. Bot.* vol. vii. pl. 409. *A. hispidula*. *Eng. Fl.* vol. iii. p. 211. 964.

4. *A. hirsuta*. *Hairy Wall-cress*. Leaves all bristly, toothed, those of the stem embracing; pods erect.—Stems about a foot high, erect, stiff, leafy, covered with spreading hairs: flowers small, white. Perennial: flowers in May: grows on dry rocks, gravelly banks, and walls: frequent. *Eng. Bot.* vol. ix. pl. 587. *Eng. Fl.* vol. iii. p. 213. 965.

5. *A. ciliata*. *Fringed Rock-cress*. Leaves somewhat toothed, oval, hairless, fringed, those from the root nearly sessile, obtuse, those of the stem half-embracing; stem unbranched; pods nearly erect.—From three to six inches high, with white flowers. Biennial: flowers in July: found at Rinville, Cunnemara, and on rocks in Glen Esk. *Eng. Bot.* pl. 1746. *Eng. Fl.* vol. iii. p. 212. 966.

6. *A. Turrata*. *Tower-cress*. Leaves toothed, embracing the stem; pods linear, flat, recurved in one direction; bractees leafy.—

About a foot high: leaves heart-shaped at the base, with short, bristly hairs, the uppermost becoming oblong bractees: flowers pale-yellow: pods thickened at the edges. Biennial: flowers in May: grows on old walls, but is not indigenous: rare. *Eng. Bot.* vol. iii. pl. 178. *Eng. Fl.* vol. iii. p. 214. 967.

### 17. TURRITIS. TOWER MUSTARD.

Calyx of four oblong, converging, erect, deciduous leaves, two opposite ones slightly protuberant at the base. Petals inversely egg-shaped, undivided, erect. Filaments thread-shaped, erect; anthers oblong. Germen linear, as long as the petals. Style very short; stigma obtuse. Pod linear, compressed, very long, its valves straight, flat, with a prominent keel. Seeds very numerous, arranged in two rows in each cell, crowded, egg-shaped, compressed, slightly bordered.—Name, from *turris*, a tower, which the plant is supposed to resemble. 330.

1. *T. glabra*. *Smooth Tower Mustard*. Root-leaves toothed, rough, the rest entire, clasping the stem, smooth.—Stem from two to three feet high, erect, simple, smooth: root-leaves oblong, nearly lyrate: flowers numerous, corymbose, pale-yellow. Annual: flowers in May and June: grows on banks and by roadsides in England: not common. *Eng. Bot.* vol. xi. pl. 777. *Eng. Fl.* vol. iii. p. 215. 968.

### 18. NASTURTIUM. CRESS.

Calyx of four oblong, obtuse, spreading, deciduous leaves. Petals inversely egg-shaped, undivided, spreading, with short claws. Filaments awl-shaped, the two shorter each with a gland at the base internally; anthers somewhat heart-shaped. Germen cylindrical. Style erect, short, cylindrical; stigma obtuse, notched. Pod nearly cylindrical, shortish; its valves concave, without ribs or keel. Seeds roundish, flattened, irregularly arranged, on slender stalks.—Name from *nasus torsus*, a convulsed or distorted nose. 331.

1. *N. officinale*. *Common Water-cress*. Leaves pinnate, with roundish-heart-shaped, waved leaflets.—Stems spreading, generally floating, branched, angular, leafy, smooth: leaves deep-green: flowers white. Perennial: flowers in June and July: grows in rivulets, clear ditches, and ponds: common. *Eng. Bot.* vol. xii. pl. 855: *Sisymbrium Nasturtium*. *Eng. Fl.* vol. iii. p. 192. 969.

2. *N. sylvestre*. *Creeping Yellow-cress*. Leaves pinnate, with elliptical, deeply serrate leaflets; root creeping.—Stems erect, a foot high, angular, furrowed, roughish: flowers numerous, small, gold-yellow, in terminal clusters. Perennial: flowers from June to September: grows in wet meadows and watery places: not common. *Eng. Bot.* vol. xxxiii. pl. 2324: *Sisymbrium sylvestre*. *Eng. Fl.* vol. iii. p. 193. 970.

3. *N. terrestre*. *Annual Yellow-cress*. Leaves pinnatifid, unequally toothed; root tapering; petals not longer than the calyx.—Stem a foot high, branched: flowers very small, pale-yellow. Annual: flowers from June to September: grows in watery places: frequent. *Eng. Bot.* vol. xxv. pl. 1747: *Sisymbrium terrestre*. *Eng. Fl.* vol. iii. p. 194. 971.

4. *N. amphibium*. *Amphibious Yellow-cress*. Leaves oblong, pinnatifid, or serrate; roots fibrous; petals longer than the calyx. —Stem two or three feet high, branched: flowers small: bright-yellow. Perennial: flowers from June to September: grows in watery places: frequent. *Eng. Bot.* vol. xxvi. pl. 1840: *Sisymbrium amphibium*. *Eng. Fl.* vol. iii. p. 195. 972.

### 19. SISYMBRIUM. SISYMBRIUM.

Calyx of four oblong, concave, spreading, deciduous leaves. Petals oblong, obtuse, undivided, with claws nearly the length of the calyx. Filaments thread-shaped, erect; anthers heart-shaped. Germen linear, sessile, slender. Style very short; stigma knobbed, notched. Pod linear, slightly angular; valves linear, concave, waved; partition narrow, membranous. Seeds numerous, small, oblong, arranged in a single row.—Name, used by the ancients. 332.

1. *S. officinale*. *Common Hedge Mustard*. Pods downy, pressed close to the stalk; leaves runcinate, hairy; stem rough with deflected bristles. —From one to two feet high, branched: leaves lyrate: flowers pale yellow, small, corymbose. Warm and acid to the taste. Infusion of it is said to be good for hoarseness, and ulcers of the throat. Annual: flowers in June and July: grows among rubbish, and by roads and hedges: common. *Eng. Bot.* vol. xi. pl. 735: *Erysimum officinale*. *Eng. Fl.* vol. iii. p. 196. 973.

2. *S. Priso*. *London Rocket*. Leaves runcinate, toothed, smooth; stem smooth; pods erect. —About two feet high, smooth: flowers yellow, small. Annual: flowers in July and August: grows in waste ground and among rubbish: rare. About London and Berwick. *Eng. Bot.* vol. xxiii. pl. 1631. *Eng. Fl.* vol. iii. p. 197. 974.

3. *S. Séphia*. *Flix-weed*. Leaves doubly pinnatifid, a little hairy; petals smaller than the calyx. —Stem slender, about two feet high: flowers small, greenish-yellow. Annual: flowers from June to September: grows among rubbish and in waste ground: frequent. *Eng. Bot.* vol. xiv. pl. 963. 975.

### 20. MATTHIOLA. STOCK.

Calyx of four linear, oblong, concave, erect, converging, deciduous leaves, two opposite ones protuberant at the base. Petals inversely egg-shaped, spreading, with erect claws, as long as the calyx. Filaments awl-shaped, the two outer much shorter, and embraced at the base by a gland; anthers oblong, nearly erect, with two linear lobes. Germen oblong, somewhat compressed, shorter than the stamens. Style short and thick, stigma two-lobed. Pod linear, compressed, convex or keeled; valves straight; partition membranous. Seeds round, compressed, having a membranous border, and arranged alternately in a single row.—Named after *P. A. Matthioli*, an Italian physician. 333.

1. *M. incana*. *Hoary Shrubby Stock*. Stem shrubby, erect, branched; leaves lance-shaped, obtuse, hoary with dense hairs. —About two feet high: flowers large, corymbose, with pale-purple petals. Flowers in May and June: grows on rocks, near

Hastings, Sussex, but is not there wild. *Eng. Bot.* vol. xxvii. pl. 1935: *Cheiranthus incanus.* *Eng. Fl.* vol. iii. p. 205. 976.

2. *M. sinuata.* *Great Sea Stock.* Stem herbaceous, with spreading branches; leaves sinuate, obtuse, downy; those of the branches undivided; pods rough, with prominent glands.—The whole plant covered with dense starry hairs and short glandular prickles: stem two feet high: flowers purple. Biennial: flowers from May to September: grows on sandy sea-shores in England: rare. *Eng. Bot.* vol. vii. pl. 462: *Cheiranthus sinuatus.* *Eng. Fl.* vol. iii. p. 206. 977.

## 21. BARBAREA. WINTER-CRESS.

Calyx of four oblong, concave, erect, deciduous leaves. Petals inversely egg-shaped, undivided, their claws nearly as long as the calyx. Filaments awl-shaped, erect, with a gland on each side within the shorter ones. Germen oblong, four-sided. Style short, cylindrical; stigma obtuse. Pod linear, four-sided, slightly compressed; valves concave, keeled, even; partition membranous, thick-edged. Seeds egg-shaped, flattish, arranged alternately in one row.—Name, from *St. Barbara.* 334.

1. *B. vulgaris.* *Bitter Winter-cress. Yellow Rocket.* Lower leaves lyre-shaped, with the terminal lobe roundish; upper leaves inversely egg-shaped, toothed.—Stem about two feet high, stout, angular, furrowed: flowers small, bright-yellow, in corymbose clusters. Bitter and sharp to the taste, used sometimes as a salad. Perennial: flowers from May to August: grows on the banks of ditches and rivers, and about hedges and walls: common. *Eng. Bot.* vol. vii. pl. 443: *Erysimum Barbarea.* *Eng. Fl.* vol. iii. p. 198. 978.

2. *B. præcox.* *Early Winter-cress.* Lower leaves lyrate, upper deeply pinnatifid, with linear, entire segments.—From one to two feet high: flowers yellow, very small. Biennial: flowers from April to October: grows in waste places in various parts of England, but is not indigenous. *Eng. Bot.* vol. xvi. pl. 1129: *Erysimum præcox.* *Eng. Fl.* vol. iii. p. 199. 979.

## 22. ERYSIMUM. TREACLE MUSTARD.

Calyx of four oblong, concave, erect, deciduous leaves. Petals inversely egg-shaped, obtuse, spreading, their claws erect and nearly as long as the calyx. Filaments thread-shaped, erect, with a gland on each side within the shorter ones; anthers oblong. Germen oblong, four-sided; style very short. Stigma small, knobbed, notched. Pod four-sided, slender; valves concave, keeled, right-angled; partition membranous. Seeds egg-shaped, arranged in one row.—Named from *cryo*, to cure. 335.

1. *E. cheiranthoides.* *Treacle Mustard.* Leaves lance-shaped, obscurely toothed, covered with forked bristles; pods nearly erect, on the horizontal stalks; stigma nearly sessile.—Stem erect, branched, two feet high: flowers numerous, small, yellow. The seeds are used for destroying worms in children. Annual: flowers in July: grows in corn-fields: frequent. *Eng. Bot.* vol. xiv. pl. 942. *Eng. Fl.* vol. iii. p. 201. 980.

2. *E. Alliaria*. *Garlick Hedge Mustard*. *Jack-by-the-hedge*. *Sauces-alone*. Leaves heart-shaped, broadly toothed, stalked.—Stem from one to three feet high: flowers numerous, white. When bruised, it emits a smell like garlick: it is bitter and acrid, and has been used as salad. Annual: flowers in May: grows among rubbish, and by hedges and walls: common. *Eng. Bot.* vol. xii. pl. 796. *Eng. Fl.* vol. iii. p. 201. 981.

3. *E. orientalis*. *Hare's-ear*. *Treacle Mustard*. Leaves elliptical, heart-shaped at the base, clasping the stem; root-leaves inversely egg-shaped, all smooth, glaucous, entire.—Stem from one to two feet high: flowers cream-coloured, in a loose corymbose cluster. Annual: flowers in June: grows in fields and on rocks near the sea, in the south-east of England: rare. *Eng. Bot.* vol. xxvi. pl. 1804: *Brassica orientalis*. *Eng. Fl.* vol. iii. p. 202. 982.

### 23. HESPERIS. DAME'S-VIOLET.

Calyx of four oblong, obtuse, deciduous leaves, lying over each other at the upper part; two opposite ones protuberant at the base. Petals inversely egg-shaped, obtuse or slightly notched, obliquely spreading; claws linear, erect, channelled, as long as the calyx. Filaments thread-shaped, erect, simple, the two shorter with a gland at their base internally; anthers linear. Germen four-sided, linear, as long as the calyx. Style very short; stigma of two erect, obtuse, downy lobes. Pod linear, four-sided, striated, with protuberances raised by the seeds; partitions membranous. Seeds oblong, pendulous, in one row.—Name, from *Hesperus*, the evening. 336.

1. *H. matronalis*. *Dame's-violet*. Leaves between egg-shaped and lance-shaped, toothed; stem erect, slightly branched; pods nearly erect, smooth.—From one to two feet high: flowers pale-purplish, sweet-scented, especially in the evening. Perennial: flowers in May and June: grows on banks and in bushy places: not common. *Eng. Bot.* vol. xi. pl. 731: *Hesperis inodora*. *Eng. Fl.* vol. iii. p. 207. 983.

### 24. CHEIRANTHUS. WALL-FLOWER.

Calyx of four oblong, concave, erect, deciduous leaves, two opposite ones protuberant at the base. Petals inversely egg-shaped, spreading, with erect claws, as long as the calyx. Filaments awl-shaped, the two outer embraced at the base by a gland; anthers arrow-shaped, acute, of two linear lobes. Germen linear, compressed, as long as the stamens. Style short; stigma more or less two-lobed. Pod linear, compressed, two-edged; valves straight; partition membranous. Seeds egg-shaped, compressed, arranged alternately in one row.—Name derived from an Arabic word, applied to another plant. 337.

1. *Ch. Cheiri*. *Wild Wall-flower*. Stem shrubby with angular branches; leaves lance-shaped, acute, hoary beneath.—Stem bushy, from one to two feet high: flowers large, with rich yellow petals. Perennial: flowers in May and June: grows on old buildings and high walls: common. *Eng. Bot.* vol. xxvii. pl. 1934: *C. fruticulosus*. *Eng. Fl.* vol. iii. p. 203. 984.

## 25. BRASSICA. CABBAGE.

Calyx of four oblong, concave leaves, protuberant and close below, spreading above. Petals inversely egg-shaped, spreading, with erect, channelled claws. Filaments awl-shaped, erect; a gland at the inside of each of the outer, and one at the outside of each of the longer pairs; anthers oblong. Germens cylindrical, as long as the stamens. Style tapering; stigma knobbed. Pod nearly cylindrical, beaked, with the style two-celled, with a cell in the beak; valves concave; partitions membranous. Seeds nearly globular, arranged in a single row; the cell of the beak also sometimes containing one or more seeds. —Name, Celtic, *bresic*, a cabbage. 388.

1. *B. Napus*. *Rape*. *Cole-seed*. Root spindle-shaped; leaves smooth, upper ones lance-shaped, heart-shaped at the base and clasping; the lower ones lyre-shaped, toothed. —Stem erect, striated, branched, two feet high, leaves glaucous: flowers bright-yellow. This species is cultivated for its seeds, which afford a large quantity of expressed oil. The refuse is employed as manure. Biennial: flowers in May: grows in corn-fields and waste ground, but is not indigenous: common. *Eng. Bot.* vol. xxx. pl. 2146. *Eng. Fl.* vol. iii. p. 217. 985.

2. *B. Rapa*. *Common Turnip*. Root fleshy, globular, depressed; root-leaves lyrate, rough; stem-leaves nearly entire, smooth. Flowers pale-yellow. Biennial: flowers in May: grows by the edges of fields: common, but not truly wild. *Eng. Bot.* vol. xxxi. pl. 2176. *Eng. Fl.* vol. iii. p. 217. 986.

3. *B. campestris*. *Common Wild Navew*. Root tapering, slender; leaves glaucous, heart-shaped, taper-pointed, embracing the stem; the lower ones lyrate, toothed. —Stem erect, slender, two feet high: flowers large, pale-yellow. Annual: flowers in June and July: grows in corn-fields: common. *Eng. Bot.* vol. xxxii. pl. 2234. *Eng. Fl.* vol. iii. p. 218. 987.

4. *B. oleracea*. *Sea-Kale*, or *Cabbage*. Root stem-like, cylindrical, fleshy; leaves glaucous, waved, lobed, smooth. —From one to two feet high: flowers pale-yellow, large. Biennial: flowers in May and June: grows on maritime cliffs: not common. From this species are derived all our numerous varieties of Cabbage. *Eng. Bot.* vol. ix. pl. 637. *Eng. Fl.* vol. iii. p. 219. 988.

5. *B. Monensis*. *Isle of Man Cabbage*. Leaves glaucous, nearly smooth, deeply pinnatifid, with oblong, unequally toothed lobes; pods four-cornered; beak lodging two or three seeds. —Root tapering, woody: stem simple, smooth, about a foot high: flowers pale-yellow, veined with purple, large. Perennial: flowers in June and July: grows on the sandy sea-coast, in the Isle of Man; Anglesea; near Liverpool; in Bute and Arran, &c. *Eng. Bot.* vol. xiv. pl. 962. *Sisymbrium Monense*. *Eng. Fl.* vol. iii. p. 220. 989.

## 26. SINAPIS. MUSTARD.

Calyx of four oblong, straight, spreading, deciduous leaves. Petals inversely egg-shaped, rounded, entire, spreading; with linear, erect claws. Filaments awl-shaped, erect; a gland at the



inside of each of the outer, and one at the outside of each of the longer pairs; anthers oblong. Germen cylindrical. Style very short; stigma knobbed. Pod nearly cylindrical, beaked; valves undulated; partition membranous, the beak also often contains a seed. Seeds nearly globular, arranged in one row.—Name, *sinapi*, used by the Greeks. 339.

1. *S. arvensis*. *Field Mustard*, or *Charlock*. Pods with many angles, knotty, longer than their awl-shaped beak; leaves toothed, partly egg-shaped, partly lyre-shaped.—Root small, tapering, hard: stem from one to two feet, rough with reflected bristles, as are the leaves: flowers greenish-yellow. Annual: flowers through the summer and autumn: grows in corn-fields, abundantly. *Eng. Bot.* vol. xxv. pl. 1784. *Eng. Fl.* vol. iii. p. 221. 990.

2. *S. alba*. *White Mustard*. Pods bristly, knotty, shorter than their two-edged beak; leaves lyre-shaped.—Stem rough, about a foot and a half high: flowers large, yellow. Eaten when young as salad. Annual: flowers in July: grows in waste places and corn-fields: frequent. *Eng. Bot.* vol. xxiv. pl. 1677. *Eng. Fl.* vol. iii. p. 222. 991.

3. *S. nigra*. *Common Mustard*. Pods closely pressed to the stalk, four-cornered, smooth, with a short beak; lower leaves lyre-shaped, upper narrow lance-shaped, entire, smooth, stem from three to four feet high: flowers yellow. Annual: flowers in June and July: grows in waste places and fields: frequent. The common mustard used at table is obtained from the seeds. It is also employed as a stimulant to the soles of the feet in fevers, and to various parts of the skin as a rubefacient. *Eng. Bot.* vol. xiv. pl. 969. *Eng. Fl.* vol. iii. p. 222. 992.

4. *S. inodora*. Pods closely pressed to the stalk, turgid, with an egg-shaped one-seeded beak; lower leaves lyre-shaped, hispid, upper between linear and lance-shaped; stem much branched.—The pod is either smooth, or hairy with a glabrous beak: seeds egg-shaped, compressed. Biennial: flowers in July and August: found in the islands of Jersey and Alderney by Mr. Babington. *Brit. Fl.* 4th ed. p. 257. *Prim. Fl. Sarn.* p. 9. 993.

5. *S. Cheiranthus*. *Wall-flower Mustard*. Pods erect, cylindrical; leaves all stalked, hairy, deeply pinnatifid.—Stem hispid at the base: lobes of the leaves unequally toothed, those of the upper linear. Biennial: flowers in July and August: discovered by Mr. Babington on the sea-shore in Jersey and Alderney, and described in his *Flora of the Channel Islands*. *Eng. Bot. Suppl.* pl. 2821. *Prim. Fl. Sarn.* p. 9. 994.

6. *S. tenuifolia*. *Narrow-leaved Wall Mustard*. Pods erect, linear, compressed, slightly beaked, on spreading stalks; seeds in two rows; upper leaves lance-shaped, undivided, lower once or twice pinnatifid; stem smooth.—Stem erect, much branched, two feet high: flowers large, pale-yellow. The whole plant is acrid, and has a disagreeable smell. Perennial: flowers from June to October: grows on heaps of rubbish and old walls, about towns: not common. *Eng. Bot.* vol. viii. pl. 525. *Eng. Fl.* vol. iii. p. 223. 995.

7. *S. muralis*. *Sand Mustard*. Pods ascending, linear, compressed, slightly beaked, on spreading stalks; seeds in two rows; leaves sinuate; stem covered with reflected bristles.—Stem about eight

inches high: flowers greenish-yellow. Annual: flowers in August and September. grows in sandy ground, in the Isle of Thanet, and near Bristol. *Eng. Bot.* vol. xvi. pl. 1090. *Eng. Fl.* vol. iii. p. 224. 996.

## 27. RAPHANUS. RADISH.

Calyx of four oblong, parallel, erect, deciduous leaves, two of them slightly prominent at the base. Petals inversely egg-shaped or heart-shaped, spreading, with linear, erect claws. Filaments awl-shaped, erect; a gland within each of the shorter, and one at the outside of each pair of the longer; anthers oblong. Germen cylindrical, tapering. Style awl-shaped; stigma knobbed, small. Pod oblong, tapering upward, irregularly tumid, as if jointed, leathery; with two incomplete cells. Seeds globular, arranged in a single row.—Name from *ra*, quickly, and *phainomai*, to appear. 940.

1. *R. maritimus*. Sea Radish. Pods one-celled, jointed, furrowed; root-leaves interruptedly lyre-shaped.—Root large, tapering, branched: stems spreading from one to two feet high: flowers large, pale-yellow. Biennial: flowers in May and June: grows in sand near the sea: not common. Sussex, Galloway, Ayrshire, Bute, abundant on the western coasts of the outer Hebrides. *Eng. Bot.* vol. xxiii. pl. 1643. *Eng. Fl.* vol. iii. p. 227. Perhaps a variety of the next. 997.

2. *R. Raphanistrum*. Field Radish. Charlock. Pods one-celled, jointed, striated; leaves lyre-shaped.—The whole plant rough with bristles: stem from one to two feet high: flowers pale-yellow. Annual: flowers in the summer months: grows in corn-fields, abundantly. *Eng. Bot.* vol. xii. pl. 856. *Eng. Fl.* vol. iii. p. 226. 998.

## CLASS XVI. MONADELPHIA.

*Plants bearing Flowers the Filaments of whose Stamens are joined together in one set.*

### Order I. PENTANDRIA. Five Stamens.

1. ERODIUM. Style one. Fruit beaked, formed of five capsules, each tipped with a spiral awn, bearded on the inside. (*Linum*. Cl. V. *Geranium pusillum*. Monadelphia Decandria.)

### Order II. DECANDRIA. Ten Stamens.

2. GERANIUM. Style one. Calyx of five leaves. Corolla of five petals. Fruit beaked, of five aggregate capsules, each with a long naked awn. *Oxalis*. *Spartium*. *Genista*. *Aethyllis*. *Ulex*. *Ononis*.

### Order III. POLYANDRIA. Numerous Stamens.

5. LAVATERA. Styles numerous. Calyx double, the outer three-lobed. Capsules numerous, circularly arranged, one-seeded.

4. *MA'LV*A. *Styles* numerous. *Calyx* double, the outer of three leaves. *Capsules* numerous, circularly arranged, one-seeded.
3. *ALTHÆA*. *Styles* numerous. *Calyx* double, the outer of nine leaves. *Capsules* numerous, circularly arranged, one-seeded.

## MONADELPHIA.—PENTANDRIA.

### 1. *ERODIUM*. STORK'S-BILL.

*Calyx* inferior, of five egg-shaped, acute, permanent leaves. *Petals* five, inversely egg-shaped, spreading, rather longer than the *calyx*. *Nectaries*, five glands, alternate with the *petals*. *Filaments* ten, awl-shaped, united at the base; five of them bearing *anthers*, five alternate ones shorter and abortive; *anthers* oblong. *Germen* roundish, with five furrows. *Style* awl-shaped, erect, longer than the *stamens*, permanent; *stigmas* oblong, reflected. *Capsules* five, inversely egg-shaped, aggregate, each tipped with a long, linear, erect, pointed, stiff awn, hairy at the inside, and finally spirally twisted, adhering by its point to the top of the style. *Seeds* one in each capsule, oblong.—Named from *erodios*, a stork or heron, whose beak the fruit resembles. 341.

1. *E. cicutdrium*. *Hemlock Stork's-bill*. Flowers in stalked umbels; leaves pinnate, with sessile pinnatifid leaflets; stems procumbent, hairy.—The whole plant is hairy and somewhat clammy, with a disagreeable smell: *petals* rose-coloured, frequently white. *Annual*: flowers from June to September: grows in sandy places, especially near the sea: frequent. *Eng. Bot.* vol. xxv. pl. 1768. *Eng. Fl.* vol. iii. p. 229. 999.

2. *E. moschdtum*. *Musky Stork's-bill*. Flowers in stalked umbels; leaves pinnate, with nearly sessile, elliptical, unequally cut leaflets; stems procumbent, hairy; perfect *stamens* toothed at the base.—More hairy and clammy than the preceding, and exhaling a musky smell: *petals* rose-coloured. *Annual*: flowers in June and July: grows in hilly pastures, in England: rare. *Eng. Bot.* vol. xiii. pl. 902. *Eng. Fl.* vol. iii. p. 230. 1000.

3. *E. maritimum*. *Sea Stork's-bill*. Stalks few-flowered; leaves simple, heart-shaped, cut, crenate, rough; stems depressed, hairy.—*Petals* minute, pale-red. *Perennial*: flowers from May to September: grows on the sandy coasts of the south of England, and in Ireland: rare. *Eng. Bot.* vol. ix. pl. 646. *Eng. Fl.* vol. iii. p. 221. 1001.

## DECANDRIA.

### 2. *GERANIUM*. CRANE'S-BILL.

*Calyx* inferior, permanent, of five egg-shaped leaves. *Petals* five, wedge-shaped, rounded, or inversely heart-shaped. *Nectaries*, five glands, alternate with the *petals*. *Filaments* ten, awl-shaped, united at the base; *anthers* elliptical, two-celled. *Ger-*

men roundish, five-lobed. Style awl-shaped, erect, permanent; stigmas cylindrical, recurved. Capsules five, between egg-shaped and oblong, aggregate, each tipped with a linear, erect awn, which is smooth on the inside, and finally recurved. Seeds between egg-shaped and oblong, one in each capsule.—Named from *geranos*, a crane, the fruit resembling the bill of that bird.

\* *Peduncles two-flowered.*

a. *Calyx rounded, with nearly equal divisions.*

1. *G. phœum*. *Dusky Crane's-bill*. Leaves palmate, with serrate lobes; calyx slightly awned; capsules keeled, hairy below, wrinkled at the top; stamens hairy.—Stems two feet high, erect, panicled, hairy; petals dark brownish-red. Perennial: flowers in May and June: grows in woods and thickets: rare, and perhaps not indigenous. *Eng. Bot.* vol. v. pl. 322. *Eng. Fl.* vol. iii. p. 232. 1002.

2. *G. sylvaticum*. *Wood Crane's-bill*. Leaves with seven cut and serrate lobes; stems erect, corymbose, rough with deflected hairs; capsules keeled, hairy, even.—Stems two or three feet high: petals entire or slightly notched, light-purple, with darker veins: flowers much smaller than those of the next species. Perennial: flowers in June and July: grows in woods and thickets by rivers: frequent. *Eng. Bot.* vol. ii. pl. 121. *Eng. Fl.* vol. iii. p. 234. 1003.

3. *G. pratense*. *Meadow Crane's-bill*. Leaves with seven deep segments, which are pinnatifidly cut and deeply serrate; stems panicled, with short glandule-tipped hairs; capsules keeled, hairy, transversely wrinkled at the top, seeds minutely granulated.—Stems two or three feet high: petals thrice the length of the calyx, bright purplish-blue with white veins, their claws densely fringed with white hairs. Perennial: flowers in June and July: grows in pastures, woods, and thickets: common in many parts. *Eng. Bot.* vol. vi. pl. 404. *Eng. Fl.* vol. iii. p. 235. 1004.

4. *G. Pyrendicum*. *Perennial Dove's-foot Crane's-bill*. Leaves roundish-kidney-shaped, with seven deep, obtuse, three-cleft lobes; calyx-leaves rather obtuse, hairy; petals cleft, twice the length of the calyx; capsules keeled, even, sparsely downy; seeds even.—Stems from six inches to three feet high, light-green, sparsely covered with short deflected hairs: petals five-veined at the base, reddish-purple, the claw minute, with a tuft of hairs at each side. Perennial: flowers in June, July, and August: grows in meadows and pastures: not common. *Eng. Bot.* vol. iv. pl. 405. *Eng. Fl.* vol. iii. p. 239. 1005.

5. *G. rotundifolium*. *Round-leaved Crane's-bill*. Leaves kidney-shaped, seven-lobed, cut, downy; petals entire, of the same length as the calyx; capsules hairy, even; seeds reticulated.—The whole plant peculiarly soft, with fine downy leaves, all opposite: petals light-crimson. Annual: flowers in June and July: grows in dry gravelly soil: not common. *Eng. Bot.* vol. iii. pl. 157. *Eng. Fl.* vol. iii. p. 241. 1006.

6. *G. mollis*. *Common Dove's-foot Crane's-bill*. Peduncles alternate, opposite to the leaves, which are roundish-kidney-shaped, nine-lobed, the lobes variously divided at the end, downy; calyx-leaves five-nerved, hairy, tipped; petals cleft; capsules keeled; transversely wrinkled; seeds minutely granulated.—The whole plant very soft, with fine down: petals scarcely one-half longer

than the calyx, cleft one-third down, rose-coloured, five-nerved at the base, their claws with a tuft of hairs on each side. Annual: flowers from the middle of spring to the end of autumn: grows in waste and cultivated ground, pastures, meadows, by way-sides, on wall-tops, &c.: very common. *Eng. Bot.* vol. xi. pl. 778. *Eng. Fl.* vol. iii. p. 237. 1007.

7. *G. pusillum*. *Small-flowered Crane's-bill*. Peduncles axillar, upper opposite to the leaves, which are roundish-kidney-shaped, seven-lobed, the lobes variously divided at the end, downy; calyx-leaves one-nerved, hairy, callous-tipped; capsules keeled; even, with close-pressed hairs; seeds minutely dotted; anthers only five.—Stems numerous, spreading or prostrate, bright-red: petals rose-coloured, a little longer than the calyx, notched, with long tapering claws, destitute of hairs at the base. Annual: flowers from the beginning of June to September: grows in dry pastures and gravelly soils: not uncommon in England; rare in Scotland. *Eng. Bot.* vol. vi. pl. 385. *Eng. Fl.* vol. iii. p. 238. 1008.

b. *Calyx with very unequal segments, prominently angled.*

8. *G. Robertianum*. *Herb Robert*. *Stinking Crane's-bill*. Leaves ternate, or pedate, with five divisions, pinnatifid, the segments shortly awn-tipped; stems panicled, with sparse, unequal, flexuous hairs; calyx ten-angled, awned, capsules wrinkled in their upper half; seeds even.—Stem red, sending out numerous branches at the base: leaves tinged with red: leaves of the calyx lance-shaped: petals twice the length of the calyx, oblong, bright rose-red with three white veins. Annual: flowers from the beginning of May to the end of October: grows in waste ground, woods, by walls, among stones and debris of rocks: common. *Eng. Bot.* vol. xxi. pl. 1486. *Eng. Fl.* vol. iii. p. 235. 1009.

9. *G. dissectum*. *Jagged-leaved Crane's-bill*. Leaves deeply divided into five, tripartite segments, sparsely downy; stems somewhat forked, with deflected hairs; calyx five-angled, with lance-shaped, awned leaves; capsules keeled, even, downy; seeds prominently reticulated.—Stems spreading: two outer calyx-leaves five-nerved, the next four-nerved, the two inner three-nerved: petals rose-coloured, a little longer than the calyx, narrow, inversely heart-shaped, with three transparent veins, sparsely fringed on the claws. Annual: flowers from May to October: grows in waste and cultivated ground: common. *Eng. Bot.* vol. xi. pl. 753. *Eng. Fl.* vol. iii. p. 241. 1010.

10. *G. lucidum*. *Shining Crane's-bill*. Peduncles longer than the leaves, which are kidney-shaped, five-lobed, the middle lobe trifid; calyx five-keeled, ten-angled at the base, transversely plaited; capsules with eight longitudinal ridges, slightly hairy, seeds even.—Stems spreading, weak, smooth, glossy, deep-red: two outer calyx-leaves with two large and one small rib each, the next with one large and one small, the two inner much narrower with one small rib each, the three outer alone transversely plaited: petals oblong, pale rose-coloured, with linear claws, which are destitute of hairs. Annual: flowers from May to September: grows in rocky places, and among debris: not common. *Eng. Bot.* vol. ii. pl. 76. *Eng. Fl.* vol. iii. p. 236. 1011.

11. *G. columbinum*. *Long-stalked Crane's-bill*. Peduncles shorter than the divisions, together thrice as long as the leaves, which are kidney-shaped, very deeply divided into five three-cleft segments, and sparsely covered with close-pressed hairs; petals

notched, a little longer than the calyx, which is prominently five-angled, with heart-shaped, awned divisions; capsules smooth and even; seeds reticulated.—Stems procumbent, slender; with minute deflected hairs: two outer leaves of the calyx five-nerved, each with two angles, the third four-nerved forming an angle by one of its sides, the rest three-nerved: petals oblong, purplish rose-coloured. Annual: flowers in June and July: grows in gravelly soil: not common. *Eng. Bot.* vol. iv. pl. 259. *Eng. Fl.* vol. iii. p. 241. 1012.

\*\* *Peduncles one-flowered.*

12. *G. sanguineum*. *Bloody Crane's-bill*. Leaves roundish, with seven deeply separated, three-cleft lobes; calyx-leaves hairy, awned; petals inversely heart-shaped, twice the length of the calyx; capsules even, sparsely hairy; seeds granulated.—Root large, knotty. Stems numerous, from one to two feet high, pale-green, covered with spreading hairs: calyx-leaves three-ribbed: petals bright-red, with five transparent veins, their claws very short, with two copious tufts of white hairs. Perennial: flowers in June, July, and August: grows in hilly situations, and on the grassy summits of maritime cliffs: not common. *Eng. Bot.* vol. iv. pl. 272. *Eng. Fl.* vol. iii. p. 232. 1013.

## POLYANDRIA.

### 3. ALTHÆA. MARSH-MALLOW.

Calyx inferior, double, permanent; the outer smaller, of one leaf, deeply divided into nine segments; the inner of one leaf, divided into five segments. Petals five, inversely heart-shaped, flat, with broad claws attached to the bottom of the tube formed by the stamens. Filaments numerous, hair-like, united below into a tube; anthers nearly kidney-shaped. Germen round, depressed. Style cylindrical, as long as the tube of the filaments; stigmas about twenty, bristle-shaped, nearly as long as the style. Capsules about twenty, compressed, arranged in a circle round the columnar receptacle, each two-valved and one-celled. Seeds solitary, kidney-shaped, compressed.—Name from *altho*, to cure. 343.

1. *A. officinalis*. *Common Marsh-Mallow*. Leaves simple, very soft and downy, slightly five or three-lobed.—Stems erect, three feet high, simple, round, downy: flowers in axillar panicles: petals pale rose-colour. The whole plant, especially the root, yields, by decoction, a mild mucilage, used medicinally. Perennial: flowers from July to September: grows in salt marshes: not common. *Eng. Bot.* vol. iii. pl. 147. *Eng. Fl.* vol. iii. p. 244. 1014.

2. *A. hirsuta*. *Rough-leaved Marsh-Mallow*. Leaves simple, rough with hairs, the lower obtusely, the upper acutely lobed, crenate; stem rough.—Annual: flowers in June and July: found in a field between Cobham and Cuxton, but is not indigenous. *Eng. Bot. Suppl.* pl. 2674. *Brit. Fl.* 4th ed. p. 262. 1015.

### 4. MALVA. MALLOW.

Calyx inferior, double, permanent; the outer smaller, of three egg-shaped, acute leaves; the inner of one leaf, divided

half-way into five broad segments. Petals five, inversely heart-shaped, abrupt, flat, their claws attached to the tube formed by the stamens. Filaments numerous, hair-like, united below into a tube; anthers kidney-shaped. Germen round, depressed. Style cylindrical; stigmas numerous, bristle-shaped, nearly as long as the style. Capsules numerous, compressed, arranged in a circle round the columnar receptacle, each two-valved and one-celled. Seed solitary, kidney-shaped.—Name altered from *malache*, soft, or emollient. 344.

1. *M. sylvestris*. *Common Mallow*. Stem erect; leaves with five or seven somewhat acute lobes; leaf-stalks and flower-stalks hairy.—Stem much branched, from two to three feet high: leaves folded, soft and downy: flowers numerous: petals purplish-red, deeply notched. Perennial: flowers from June to September: grows about hedges and road-sides: common. *Eng. Bot.* vol. x. pl. 671. *Eng. Fl.* vol. iii. p. 245. 1016.

2. *M. moschata*. *Musk Mallow*. Stem erect; root-leaves kidney-shaped, cut; those of the stem deeply divided into five or seven pinnatifid, jagged segments; calyx hairy, its outer leaves narrow, lance-shaped.—Stems about two feet high, little branched, rough: flowers on long axillar simple stalks: petals large, rose-coloured. Perennial: flowers in July and August: grows in pastures and by way-sides: frequent. *Eng. Bot.* vol. xi. pl. 754. *Eng. Fl.* vol. iii. p. 247. 1017.

3. *M. rotundifolia*. *Dwarf Mallow*. Stem prostrate; leaves roundish-heart-shaped, obtusely five-lobed; fruit-stalks bent downwards.—Stems numerous, lying flat on the ground: flowers pale-lilac. A variety with whitish flowers, whose petals are not longer than the calyx. Perennial: flowers from June to September: grows in waste ground and by way-sides: frequent. *Eng. Bot.* vol. xvi. pl. 1092, and vol. iv. pl. 241. *Eng. Fl.* vol. iii. p. 246. 1018.

#### 5. LAVATERA. TREE-MALLOW.

Calyx superior, double, permanent; the outer larger, of one leaf, deeply divided into three broad, spreading segments; the inner of one leaf, divided half-way into five acute lobes. Petals five, inversely heart-shaped, abrupt, flat, attached by their narrow claws to the tube formed by the stamens. Filaments numerous, hair-like, united below into a cylindrical tube; anthers kidney-shaped. Germen round, depressed. Style cylindrical, with a conical permanent base; stigmas from seven to fourteen, bristle-shaped, as long as the style. Capsules from seven to fourteen, arranged in a circle round the columnar receptacle, each two-valved and one-celled. Seeds solitary, kidney-shaped.—Named after the two *Lavaters*. 345.

1. *L. arborea*. *Sea Tree-Mallow*. Stem woody; leaves downy, plaited, with seven angles; flowers on simple aggregated axillar stalks.—Stem from three to five feet high, erect: flowers large: petals purplish rose-colour, darker on the base. Biennial: flowers from July to October: grows on rocks along the sea-shore: rare. *Eng. Bot.* vol. xxvi. pl. 1841. *Eng. Fl.* vol. iii. p. 248. 1019.

## CLASS XVII. DIADELPHIA.

*Filaments united, forming two sets.*Order I. HEXANDRIA. *Six Stamens.*

1. FUMARIA. *Calyx* of two leaves. *Petals* four, irregular. Each filament bearing three anthers.

Order II. OCTANDRIA. *Eight Stamens.*

2. POLYGALA. *Calyx* of five leaves, the two inner much larger, coloured. *Capsule* two-celled, two-valved.

Order III. DECANDRIA. *Ten Stamens.*

\* *Stamens all united at the base, forming a tube which is generally split along its upper side.*

3. GENTIANA. *Calyx* two-lipped, the upper lip with two teeth, the lower with three. *Standard* reflected.

4. ULEX. *Calyx* of two leaves, nearly as long as the legume.

6. ANTHYLLIS. *Calyx* inflated, five-toothed, inclosing the legume.

5. ONONIS. *Calyx* with five deep segments. *Standard* striated. *Legume* turgid, sessile.

\*\* *Stamens, nine united at the base, one free; stigma or style downy.*

8. OROBUS. *Style* linear, nearly cylindrical. *Stigma* downy, linear, extending along the upper side of the style.

7. PISUM. *Style* triangular. *Stigma* downy, extending along the prominent upper angle of the style.

9. LATHYRUS. *Style* flattened, dilated upwards. *Stigma* downy, extending along the dilated part of the style.

10. VICIA. *Style* bearded in front, below the stigma.

- ✓ 11. ERVUM. *Stigma* knobbed, downy all over.

\*\*\* *Stamens, nine united, one free; stigma not downy; legume two-celled.*

16. ASTRAGALUS. *Legume* tumid, with two longitudinal cells.

\*\*\*\* *Stamens, nine united, one free; stigma not downy; legume one-celled, jointed.*

15. HEDYSARUM. *Legume* of one or more compressed single-seeded joints. *Keel* very obtuse.

12. ORNITHOPUS. *Legume* compressed, curved, of many close, single-seeded joints, whose sides are equal.

13. ARTHROLOBIUM. *Legume* cylindrical, curved, of many close, single-seeded joints, whose sides are equal.

14. HIPPOCREPIS. *Legume* compressed, partly membranous, incurved, with many curved joints; one of the sutures with several notches.

\*\*\*\*\* *Stamens, nine united, one free; stigma not downy; legume one-celled, not jointed.*

19. MEDICAGO. *Legume* compressed, somewhat membranous, spirally twisted.



17. *TRIFOLIUM*. *Legume* hardly longer than the calyx, with one seed, seldom more, deciduous, not bursting.  
 18. *LOTUS*. *Legume* cylindrical, straight, spongy within. *Wings* cohering at their upper edges. *Filaments* dilated upwards.

## DIADELPHIA.—HEXANDRIA.

## 1. FUMARIA. FUMITORY.

Calyx inferior, of two opposite, erect, acute, small, membranous, deciduous leaves. Corolla oblong, tubular, gaping with a prominent palate, filling up the mouth; petals four, more or less united; upper lip flat, blunt, notched, reflected, its base prominent, obtuse, forming the nectary; lower lip like the upper, sometimes with a similar nectary at the base, and sometimes only keeled there; two inner petals linear, slightly connected by their tips. Filaments two, flat, shorter than the corolla, one within each lip; anthers roundish, three at the end of each filament. Germen roundish or oblong, compressed, pointed. Stigma compressed, of two flat lobes. Pod roundish or oblong, one-celled. Seeds roundish, crested.—Named from *fumus*, smoke. 346.

\* *Pod* round, one-seeded; *nectary* single.

1. *F. officinalis*. *Common Fumitory*. Cluster rather loose; stem branched, spreading; leaves twice pinnate, with their segments lance-shaped.—Stem from three to six inches high: clusters opposite to the leaves, stalked: flowers rose-coloured, dark-red at their summit: spur very short, rounded. Annual: flowers from May to November: grows in loose soil: common. *Eng. Bot.* vol. ix. pl. 589. *Eng. Fl.* vol. iii. p. 255. 1020.

2. *F. parviflora*. *Small-flowered Fumitory*. Cluster loose; stem spreading; leaves twice pinnate, with their segments linear and channelled.—Smaller than the last: flowers pale-red, with purple tips. Annual: flowers in August and September: grows in fields: rare. *Eng. Bot.* vol. ix. pl. 590. *Eng. Fl.* vol. iii. p. 256. 1021.

3. *F. capreolata*. *Ramping Fumitory*. Cluster rather loose; stem climbing by means of the twisted leaf-stalks; leaves thrice ternate, with wedge-shaped lobed leaflets.—From two to four feet high, greatly resembling the common fumitory. Annual: flowers in summer and autumn: grows in cultivated fields: common. *Eng. Bot.* vol. xiv. pl. 943. *Eng. Fl.* vol. iii. p. 256. 1022.

\*\* *Pod* oblong, many-seeded; *nectary* single.

4. *F. solida*. *Solid Bulbous Fumitory*. Stem generally simple, erect; leaves twice ternate; bracteas palmate, longer than each flower-stalk.—Root round, fleshy: cluster terminal, solitary, erect, of about twelve pale-purple flowers. Perennial: flowers in April and May: grows in woods and thickets in England, but is not indigenous: rare. *Eng. Bot.* vol. xxi. pl. 1471. *Eng. Fl.* vol. iii. p. 253. 1023.

5. *F. lutea*. *Yellow Fumitory*. Pods nearly cylindrical, shorter than their stalks; stem erect, angular; bracteas minute; spur short,

rounded.—Stem about a foot high, erect, three-cornered: leaves thrice ternate, with wedge-shaped leaflets; flowers pale-yellow, with deeper coloured lips. Perennial: flowers in May: grows on old walls, in Derbyshire and Yorkshire: rare, but is not truly wild. *Eng. Bot.* vol. ix. pl. 588. *Eng. Fl.* vol. iii. p. 253. 1024.

6. *F. claviculata*. Pods lance-shaped, undulated; stem climbing; leaf-stalks ending in branched tendrils.—Stem branched, slender, from two to three feet high: clusters opposite to each leaf: flowers yellowish-white. Annual: flowers in June and July: grows in bushy places, frequent. *Eng. Bot.* vol. ii. pl. 103. *Eng. Fl.* vol. iii. p. 254. 1025.

## OCTANDRIA.

## 2. POLYGALA. MILKWORT.

Calyx inferior, of five leaves; the three outer smaller, egg-shaped. Petals varying in number, united to the filaments by their claws; limb of the upper deeply divided; the lower keel-shaped, generally crowned with a crested appendage. Filaments united at the bottom, divided above into two sets; anthers eight, one-celled, tubular. Germen roundish. Style club-shaped, straight; stigma two-lipped. Capsule round or inversely heart-shaped, compressed, two-valved, two-celled. Seeds one in each cell, oval, downy, crested.—Named from *poly*, much, and *gala*, milk. 347.

1. *P. vulgaris*. Common Milkwort. Flowers in a terminal cluster; two inner leaves of the calyx about equal to the corolla; stems herbaceous, simple, ascending; leaves narrow, lance-shaped.—From three to six inches long: flowers blue, sometimes pink or white. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. ii. pl. 76. *Eng. Fl.* vol. iii. p. 258. 1026.

## DECANDRIA.

## 3. GENISTA. BROOM. GREEN-WEED.

Calyx inferior, two-lipped; the upper lip with two, the lower with three teeth. Corolla of five petals; standard inversely heart-shaped, reflected, standing out from the rest; wings oblong, spreading; keel of two lance-shaped, obtuse petals, cohering below. Filaments ten, united below into a tube; anthers roundish. Stigma oblong. Legume compressed, oblong, one-celled, with two concave valves. Seeds several, roundish.—Name, from *gen*, a shrub, Celtic. 348.

\* Branches thornless.

1. *G. scoparia*. Common Broom. Leaves ternate or solitary; branches angular; legumes much compressed, hairy at the margin.—A bushy shrub with long, straight branches, having prominent, narrow angles: flowers axillar, solitary or in pairs, of a rich golden-yellow, sometimes tinged with red. Decoction of the young twigs is diuretic, and has been used in dropsies. Flowers in May

and June: grows in thickets, and dry pastures: common. *Eng. Bot. vol. xix. pl. 1339. Spartium scoparium. Eng. Fl. vol. iii. p. 261. 1027.*

2. *G. tinctoria. Dyer's Green-weed. Wood-waxen.* Leaves lance-shaped, smooth; branches round, striated, erect; legumes smooth, nearly cylindrical.—A small shrub, with numerous straight branches: flowers on short and axillar stalks, crowded about the tops of the branches: petals pale-yellow. A good yellow colour is obtained from the whole plant. Flowers in July and August: grows in thickets and pastures: frequent. *Eng. Bot. vol. i. pl. 44. Eng. Fl. vol. iii. p. 263. 1028.*

3. *G. pilosa. Hairy Green-weed.* Leaves lance-shaped, broader towards the end, hairy beneath; stem tuberculated, prostrate; calyx and flower-stalks covered with silky hairs.—A small shrub, with much branched stems, lying flat: flowers axillar and solitary, crowded about the top of the branches: petals bright-yellow: legume oblong, hairy. Flowers in May, and again in September: grows on dry elevated heaths and pastures, in the south of England and in Wales: rare. *Eng. Bot. vol. iii. p. 208. Eng. Fl. vol. iii. p. 263. 1029.*

\*\* *Branches thorny.*

4. *G. Anglica. Needle Green-weed. Petty Whin.* Leaves egg-shaped, smooth; thorns simple, none on the flowering branches. A small shrub, with ascending stems, about a foot long: flowers solitary, small, pale-yellow, the standard deeper. Flowers in May and June: grows on heathy grounds: not uncommon. *Eng. Bot. vol. ii. pl. 132. Eng. Fl. vol. iii. p. 264. 1030.*

#### 4. U'LEX. FURZE.

Calyx inferior, of two egg-shaped, concave, equal, coloured, permanent leaves; the upper with two small teeth, the lower with three. Corolla of five petals; standard egg-shaped, cleft, ascending; wings oblong, obtuse; keel of two straight, obtuse petals, cohering at their lower edges. Filaments ten, all united at the base, one of them separate for more than half its length; anthers roundish, two-lobed. Germen oblong, nearly cylindrical, hairy. Style awl-shaped, curved upwards; stigma small, obtuse. Legume oblong, turgid, straight, little longer than the calyx, one-celled, two-valved; the valves concave, hard, and elastic. Seeds polished, roundish.—Name doubtful. 349.

1. *U. Europæus. Common Furze, Whin, or Gorse.* Teeth of the calyx minute, close together; bractæas egg-shaped, loose; branches erect.—A very bushy shrub, from two to five feet high, beset with thorns: leaves small, awl-shaped, thorn-tipped: flowers solitary or in pairs, bright-yellow: two minute egg-shaped spreading bractæas at the base of the calyx. When often cut or burnt, the young shoots are usually soft and succulent, and are eaten by cattle. Flowers in May, occasionally at all seasons: grows in dry pastures and heaths: common. *Eng. Bot. vol. xi. pl. 742. Eng. Fl. vol. iii. p. 265. 1031.*

2. *U. nanus. Dwarf Furze.* Teeth of the calyx spreading; bractæas minute, close-pressed; branches reclining. Half the size of the last in all its parts, and apparently nothing but a slight variety of it. Flowers in autumn: grows on dry elevated heaths and pastures: frequent. *Eng. Bot. vol. xi. pl. 743. Eng. Fl. vol. iii. p. 226. 1032.*

## 5. ONO'NIS. REST-HARROW.

Calyx inferior, tubular, rather deeply divided into five linear, pointed segments, the lower longest, and lying under the keel. Corolla of five petals; standard largest, heart-shaped, striated, keeled and compressed at the back, the sides depressed; wings inversely egg-shaped, half the length of the standard; keel of two converging petals, pointed, a little longer than the wings. Filaments ten, united into a cylinder, which is split above; anthers roundish. Germen oblong. Style cylindrical, ascending; stigma small, obtuse. Legume diamond-shaped, turgid, sessile, scarcely longer than the calyx, one-celled, two-valved, the valves stiff and elastic.—Name from *onos*, an ass. 350.

1. *O. arvensis*. *Rest-harrow*. *Cummock*. Stem hairy; branches becoming at length thorny at the point; flowers mostly solitary; calyx shorter than the corolla; leaves ternate below, the rest simple, serrate, entire at the base.—Root woody, branched: flowers axillar, generally solitary, large, rose-coloured: pods two or three-seeded. Perennial: flowers from June to September: grows in dry pastures and the edges of fields: common. *Eng. Bot.* vol. x. pl. 682. *Eng. Fl.* vol. iii. p. 267. 1033.

2. *O. reclinata*. *Small Spreading Rest-harrow*. Stem hairy; calyx as long as the corolla; leaves all stalked, ternate.—Much smaller than the last: stem herbaceous, spreading: pods many-seeded. Annual: flowers in July: first discovered in Britain by Dr. Graham on a steep bank by the sea, near Sarbert, Galloway, in 1836. Alderney. *Brit. Fl.* 4th ed. p. 268. 1034.

## 6. ANTHYLLIS. KIDNEY-VETCH.

Calyx inferior, egg-shaped, inflated, woolly, with five small unequal, marginal teeth, permanent. Corolla of five petals, with linear claws, as long as the calyx; standard longest, reflected at the sides; wings half egg-shaped, shorter, keel of two narrower petals, compressed, slightly cohering at the tips. Filaments ten, united into a cylinder, finally splitting along the upper edge, their extremities curved upwards; anthers small, roundish. Germen oblong or half egg-shaped. Style awl-shaped, ascending; stigma obtuse. Legume small, roundish, or oblong, inclosed in the enlarged calyx, one-celled, two-valved. Seeds one or two, roundish.—Name from *anthos*, a flower, and *ioulos*, beard. 351.

1. *A. Vulneraria*. *Kidney-vetch*. *Ladies'-fingers*. Herbaceous; leaves pinnate, with a terminal leaflet; heads of flowers in pairs.—Stems about a foot high, ascending, round, hairy: leaves hairy beneath: flowers numerous: calyx pale, hairy: corolla yellow, sometimes red. Perennial: flowers from June to September: grows in dry pastures: frequent; abundant in those near the sea. *Eng. Bot.* vol. ii. pl. 104. *Eng. Fl.* vol. iii. p. 269. 1035.

## 7. PISUM. PEA.

Calyx inferior, cup-shaped, unequal, with five acute, permanent segments, the two upper wider and more distant. Corolla of five petals; standard broadest, inversely heart-shaped, reflected, with two protuberances at the inner side near the bot-

tom; wings inversely egg-shaped, coming together above, shorter; keel compressed, half-moon shaped, shorter than the wings. Filaments ten, nine united, the uppermost separated, flattish; anthers small, roundish. Germen oblong, compressed. Style triangular, membranous at the edges, ascending; stigma longitudinal, downy, united to the upper angle of the keel. Legume large, oblong, somewhat compressed, pointed, one-celled, one-valved. Seeds globular.—Name from the Celtic *pis*, a pea. 352.

1. *P. maritimum*. *Sea-pea*. Leaf-stalks flattish above; stem angular; stipules arrow-shaped; stalks many-flowered.—Stems procumbent, four-cornered: leaves alternate, sessile, alternately pinnate with a branched tendril: flowers purple, veined with crimson. Perennial: flowers in July: grows on stony beaches in several parts of the eastern and southern shores of England, and in Shetland. *Eng. Bot.* vol. xv. pl. 1046. *Eng. Fl.* vol. iii. p. 270. 1036.

#### 8. OROBUS. BITTER-VETCH.

Calyx superior, cup-shaped, unequal, with five acute segments, the two upper shorter and more distant, the lower one longest. Corolla of five petals; standard inversely heart-shaped, reflected at the sides, rather longer than the rest; wings inversely egg-shaped, ascending, approaching each other; keel rounded, pointed, of two united petals, with separate claws. Filaments ten, nine united into a compressed tube, the other hair-like; anthers small, roundish. Germen oblong, compressed. Style thread-shaped, straight, ascending, channelled above; stigma longitudinal, linear, downy, extending along the upper side of the upper half of the style. Legume oblong or linear, somewhat cylindrical, pointed, ascending at the end, one-celled, two-valved. Seeds several, roundish.—Name from *oro*, to strengthen, and *bous*, an ox. 353.

1. *O. tuberosus*. *Heath-pea*. *Common Bitter-vetch*. Leaves pinnate with elliptical leaflets; stipules half arrow-shaped, toothed at the base; stem erect, simple.—Root knobbed, creeping: stems about a foot high: flowers in long-stalked, axillar clusters, variegated with blue, purple, and crimson. The root, which is sweetish and astringent, is chewed by the Highlanders. Perennial: flowers in June and July: grows in heaths, and in woods and open pastures: common. *Eng. Bot.* vol. xvii. pl. 1153. *Eng. Fl.* vol. iii. p. 272. 1037.

2. *O. niger*. *Black Bitter-vetch*. Leaves pinnate with broadly oblong leaflets; stipules narrow lance-shaped, acute; stems branched, erect, angular.—Root creeping, woody: stems from one to two feet long: petals purple, variegated. Whole plant turns black in drying; hence its name. Perennial: flowers in June and July: found by Mr. T. Drummond, in the Den of Airly, Forfarshire; and by Dr. MacLachlan, near Moy House, Invernesshire. *Eng. Fl.* vol. iii. p. 270. 1038.

3. *O. sylvaticus*. *Wood Bitter-vetch*. Stems spreading, hairy, branched, leaves pinnate, with numerous lance-shaped leaflets.—Root creeping, woody: stems numerous, from one to two feet long: petals cream-coloured, streaked and tipped with purple.

Perennial: flowers in\* May and June: grows in mountainous woods and thickets: not common. *Eng. Bot.* vol. viii. pl. 518. *Eng. Fl.* vol. iii. p. 273. 1039.

### 9. LATHYRUS. VETCHLING.

Calyx superior, cup-shaped, unequal, with five lance-shaped segments, the two upper shorter, the lower one longest. Corolla of five petals; standard largest, inversely heart-shaped, reflected at the sides; wings oblong, obtuse, somewhat curved upwards, approaching each other; keel rounded, of two united petals, with separate claws. Filaments ten, nine united into a compressed tube, open at the upper edge, the other hair-like, separate; anthers small, roundish. Germen oblong, compressed. Style ascending, flattened vertically, dilated upwards, acute at the end; stigma longitudinal, downy, running along the upper half of the style. Legume long, cylindrical or compressed, pointed, one-celled, two-valved. Seeds several, roundish.—Name, *lathyros*, used by Theophrastus. 354.

\* *Flowers solitary.*

1. *L. Aphaca*. *Yellow Vetchling*. Tendrils without leaves; stipules heart-shaped and arrow-shaped.—Stems procumbent or climbing by means of tendrils, each of which arises from between a pair of large stipules: flowers greenish-yellow. Annual: flowers from June to August: grows in the borders of sandy fields in England: rare. *Eng. Bot.* vol. xvii. pl. 1167. *Eng. Fl.* vol. iii. p. 274. 1040.

2. *L. Nissolia*. *Crimson Vetchling*. Leaves simple, without tendrils; stipules awl-shaped.—Stems slender, with sessile lance-shaped leaves, and crimson flowers. Annual: flowers in May: grows in the borders of fields in England: frequent. *Eng. Bot.* vol. ii. pl. 112. *Eng. Fl.* vol. iii. p. 275. 1041.

\*\* *Flowers in pairs.*

3. *L. hirsutus*. *Rough-podded Vetchling*. Tendrils with two narrow lance-shaped leaflets; legumes hairy; seeds rough.—Stem winged, slightly hairy, climbing: flowers variegated, the standard crimson, the wings pale-blue, the keel white. Annual: flowers in July: grows in cultivated fields in England: rare. *Eng. Bot.* vol. xviii. pl. 1255. *Eng. Fl.* vol. iii. p. 275. 1042.

\*\*\* *Flowers numerous on each stalk.*

4. *L. pratensis*. *Yellow Meadow Vetchling*. Tendrils simple, each with two lance-shaped leaflets.—Stems weak, branched from one to two feet high: flowers yellow, eight or nine together, on long stalks. An excellent pasture plant. Perennial: flowers in July and August: grows in meadows and pastures: common. *Eng. Bot.* vol. x. pl. 670. *Eng. Fl.* vol. iii. p. 276. 1043.

5. *L. sylvestris*. *Narrow-leaved Everlasting-pea*. Tendrils branched, each with two sword-shaped leaflets; stem winged.—Stems climbing, three or four feet long: flowers on axillar stalks: corolla variegated with pale-crimson, blue and green. Perennial: flowers in July and August: grows in thickets and hedges in England, very rare in Scotland. *Eng. Bot.* vol. xii. pl. 805. *Eng. Fl.* vol. iii. p. 277. 1044.

6. *L. latifolius*. *Broad-leaved Everlasting-pea*. Tendrils branched,

each with two elliptical leaflets; stem winged.—Stem climbing, three or four feet long: flowers large, rose-coloured. Perennial: flowers in July and August: grows in woods: rare, and apparently not indigenous. *Eng. Bot.* vol. xvi. pl. 1108. *Eng. Fl.* vol. iii. p. 277. 1045.

7. *L. palustris*. *Blue Marsh Vetchling*. Tendrils branched, each with several lance-shaped segments; stipules lance-shaped; stem winged.—Flowers variegated with blue and purple. Perennial: flowers in July and August: grows in wet meadows and thickets: rare. *Eng. Bot.* vol. iii. pl. 169. *Eng. Fl.* vol. iii. p. 278. 1046.

#### 10. VICIA. VETCH.

Calyx inferior, tubular, unequal, with five acute segments, the two uppermost shorter. Corolla of five petals; standard largest, oval, ascending, the sides deflected, the back somewhat keeled; wings oblong, approaching each other, shorter than the standard; keel rounded, compressed of two united petals, with separate claws. Filaments ten; nine united into a compressed tube, open at the upper edge, the other hair-like, separate; anthers small, roundish. Germen oblong, compressed. Style short, ascending at a right angle, cylindrical; stigma obtuse, with a tuft of hairs in front, below the summit. Legume long, compressed, pointed, with two leathery, stiffish valves. Seeds several, roundish.—Name, *bikion*, in Greek. 355.

\* *Stalks long, many-flowered.*

1. *V. sylvatica*. *Wood Vetch*. Leaflets elliptical; stipules crescent-shaped, deeply-toothed.—Stems numerous, climbing, five or six feet long: flowers numerous, in clusters longer than the leaves: petals bluish-white, veined with blue. Perennial: flowers in July and August: grows in bushy places and hedges: frequent. *Eng. Bot.* vol. ii. pl. 79. *Eng. Fl.* vol. iii. p. 279. 1047.

2. *V. Cracca*. *Tufted Vetch*. Flowers in imbricated clusters; leaflets lance-shaped, downy; stipules half arrow-shaped, nearly entire.—Stems two or three feet long: flowers variegated with purple and blue. An excellent pasture plant. Perennial: flowers in July and August: grows in thickets, hedges, and pastures: common. *Eng. Bot.* vol. xvii. pl. 1168. *Eng. Fl.* vol. iii. p. 280. 1048.

\*\* *Flowers axillar, nearly sessile.*

3. *V. sativa*. *Common Vetch*. Flowers nearly sessile, commonly in pairs, leaflets oblong, lower ones abrupt; stipules toothed, impressed with a dark spot; seeds smooth.—Stems procumbent or climbing, from two to three feet long: leaflets from six to ten: flowers variegated with crimson, blue, and white. Perennial: flowers in May and June: grows in corn-fields: frequent. *Eng. Bot.* vol. v. pl. 334. *Eng. Fl.* vol. iii. p. 281. 1049.

4. *V. angustifolia*. *Narrow-leaved Crimson Vetch*. Flowers solitary, nearly sessile; leaflets about six, linear, lower ones inversely heart-shaped; stipules impressed with a pale spot; seeds smooth.—Flowers crimson, white at the keel. This is probably a starved variety of the preceding. Annual: flowers in June: grows in pastures: frequent. *Eng. Fl.* vol. iii. p. 282. *Eng. Bot. Suppl.* pl. 2614. 1050.

5. *V. lathyroides*. *Spring Vetch*. Flowers solitary, nearly sessile : leaflets about six, oblong, the lower ones inversely heart-shaped ; tendrils simple, shorter than the leaflets ; seeds tuberculated. — Stems procumbent, three or four inches long : stipules half heart-shaped, destitute of coloured mark : flowers small, light bluish-purple. Annual : flowers in April and May : grows in dry gravelly pastures : very common in Scotland. *Eng. Bot.* vol. i. pl. 30. *Eng. Fl.* vol. iii. p. 283. 1051.

6. *V. lutea*. *Rough-podded Yellow Vetch*. Flowers solitary, nearly sessile ; legumes reflected, hairy ; stems spreading ; stipules egg-shaped, pointed, coloured ; standard smooth. — Stems spreading on the ground, from one to two feet long : leaflets numerous, elliptical : tendrils long, branched : spot on the stipules red, generally enlarged : flowers pale-yellow, striped with grey. Perennial : flowers in August : grows in dry gravelly pastures : rare. *Eng. Bot.* vol. vii. pl. 481. *Eng. Fl.* vol. iii. p. 284. 1052.

7. *V. hybrida*. *Hairy-flowered Yellow Vetch*. Flowers solitary, nearly sessile ; legumes reflected, hairy ; stems ascending ; stipules egg-shaped, unspotted ; standard hairy. — Stem from one to two feet long : flowers pale-yellow, with reddish stripes. Perennial : flowers in June and July : grows in thickets in the south of England ; Glastonbury, Tor-hill, and near Lincoln. *Eng. Bot.* vol. vii. pl. 482. *Eng. Fl.* vol. iii. p. 285. 1053.

8. *V. levisquta*. *Smooth-podded Sea Vetch*. Flowers solitary, nearly sessile ; legumes reflected, smooth ; stems ascending ; stipules cleft, without spot ; leaflets bluntish, smooth. — Flowers pale-blue or whitish : the whole plant smooth. Perennial : flowers in July and August : grows on the pebbly coast of Dorsetshire. *Eng. Bot.* vol. vii. pl. 483. *Eng. Fl.* vol. iii. p. 285. 1054.

9. *V. sépium*. *Common Bush Vetch*. Flowers about four together, in short axillar clusters ; legumes erect, smooth ; leaflets egg-shaped, obtuse, becoming gradually smaller upwards on the leaf-stalk. — Stems about two feet long : flowers bluish-purple : legumes blackish. Perennial : flowers in May and June : grows in bushy places, hedges, and pastures : common. *Eng. Bot.* vol. xxii. pl. 1515. *Eng. Fl.* vol. iii. p. 286. 1055.

10. *V. Bithynica*. *Rough-podded Purple Vetch*. Flowers commonly solitary, stalked ; legumes erect, rough with stiff hairs ; leaflets four, lance-shaped, minutely pointed ; stipules half-arrow-shaped, fringed with teeth. — Stems about eighteen inches long, smooth, prostrate : standard purple : keel and wings white. Perennial : flowers in July and August : grows in bushy places and dry pastures in England : rare. *Eng. Bot.* vol. xxvi. pl. 1842. *Eng. Fl.* vol. iii. p. 287. 1056.

## 11. ERVUM. TARE.

Calyx inferior, tubular, divided half-way into five lance-shaped, long-pointed segments, shorter than the corolla, the lowermost rather longer. Corolla of five petals ; standard largest, inversely egg-shaped, slightly reflected ; wings half as long, obtuse ; keel shorter, rounded, of two united petals,\* with separate claws. Filaments ten ; nine united into a compressed tube, open along the



upper edge; the other hair-like, separate; anthers roundish. Germen oblong, compressed. Style cylindrical, ascending at a right angle; stigma knobbed, all over hairy. Legume oblong, compressed. Seeds from two to four, roundish.—Name from the Celtic *erw*, a ploughed field. 356.

1. *E. hirsutum*. *Hairy Tare*. Clusters many-flowered; legumes hairy, two-seeded; leaflets abrupt.—Stem two or three feet long, nearly smooth: flowers whitish or pale-blue. Annual: flowers in June and July: grows in fields and hedges: common. *Eng. Bot. vol. xiv. pl. 970. Eng. Fl. vol. iii. p. 289.* 1057.

2. *E. tetraspermum*. *Smooth Tare*. Flowers in pairs; legumes smooth, four-seeded; leaflets oblong, bluntish.—Stem two or three feet long, more or less hairy, as are the leaves; flowers pale-grey or bluish. Annual: flowers in June and July: grows in fields and hedges: not so common as the last. *Eng. Bot. vol. xvii. pl. 1223. Eng. Fl. vol. iii. p. 228.* 1058.

## 12. ORNITHOPUS. BIRD'S-FOOT.

Calyx inferior, tubular, with five nearly equal, marginal teeth. Corolla of five petals; standard inversely egg-shaped, entire, ascending; wings rather smaller, inversely egg-shaped, curved upwards; keel smaller, of two rounded, united petals, with separated claws. Filaments ten, nine united into a compressed tube, open along its upper edge, the other hair-like, separate; all curved upwards at the end; anthers minute, roundish. Germen linear, compressed. Style slender, ascending; stigma knobbed, bare. Legume curved, compressed, jointed, finally separating at the joints, each of which contains one roundish seed.—Name, from *ornis*, a bird, and *pous*, a foot. 357.

1. *O. perpusillus*. *Common Bird's-foot*. Leaves pinnate; flowers in heads; legumes curved inwards, bead-like.—Stems procumbent, from three to ten inches long: leaves of numerous pairs of elliptical, hairy leaflets: flowers three or four in each head, which is accompanied by a pinnate leaf: corolla white, veined with red, the keel greenish. Annual: flowers in May: grows in sandy pastures: frequent. *Eng. Bot. vol. vi. pl. 369. Eng. Fl. vol. iii. p. 290.* 1059.

## 13. ARTHROLOBIUM. JOINT-VETCH.

Calyx inferior, tubular, with five teeth. Keel of the corolla very small. Legume nearly cylindrical, smooth, composed of several joints, each containing a single seed.—Name from *arthron*, a joint, and *lobos*, a pod. 358.

1. *A. ebracteatum*. *Sand Joint-vetch*. Stem thread-like; leaf-stalks two-flowered, nearly equal to the leaves; stipules very small; leaves pinnated; leaflets equal, the lower ones remote from the stem.—A small plant, resembling the preceding in habit. Annual: flowers in July and August: found by Messrs. Babington and Christy in sandy ground in the islands of Guernsey and Jersey. Scilly Islands. *Brit. Fl. 4th ed. p. 273. Prim. Fl. Sarn. p. 29.* 1060.

## 14. HIPPOCREPIS. HORSE-SHOE VETCH.

Calyx inferior, bell-shaped, divided half-way into five lance-shaped, acute, permanent segments; the two upper shorter. Corolla of five petals, with claws longer than the calyx; standard heart-shaped, ascending; wings inversely egg-shaped, obtuse; keel rounded, pointed, of two united petals, with separated claws. Filaments ten, nine united into a tube, open along its upper edge, the other separate, all curved upwards at the end; anthers roundish. Germen slender, compressed, tapering into an awl-shaped, ascending style; stigma linear, smooth. Legume compressed, partly membranous, incurved, notched, with many curved joints, finally separating at the joints, each of which contains a single curved, oblong seed.—Name, from *hippos*, a horse, and *crepis*, a shoe. 359.

1. *H. comosa*. *Tufted Horse-shoe Vetch*. Legumes in umbels, curved downwards, not dilated at the margin.—Root woody: stems from six inches to a foot long: leaflets from seven to eleven, inversely egg-shaped, hairy beneath: flowers about six together, on long axillar or terminal stalks: flowers yellow, striated. Perennial: flowers from May to September: grows in dry chalky pastures in England: frequent. *Eng. Bot.* vol. i. pl. 31. *Eng. Fl.* vol. iii. p. 291. 1061.

## 15. HEDYSARUM. SAINT-FOIN.

Calyx inferior, tubular, divided half-way into five awl-shaped, straight segments. Corolla of five petals; standard egg-shaped, keeled at the back, slightly cleft, reflected at the sides; wings oblong, straight, narrower than the other petals; keel of two united petals, with separate claws, compressed, broader in front, and very abrupt. Filaments ten, nine united into a flattish tube, open above, the other awl-shaped, separate, all bent upwards at the extremity; anthers roundish. Germen egg-shaped or oblong, compressed. Style awl-shaped, bent like the stamens; stigma acute. Legume compressed, with one or more roundish joints, each joint two-valved and one-seeded. Seeds kidney-shaped.—Name, from *hedus*, sweet, and *aroma*, smell. 360.

1. *H. Onobrychis*. *Common Saint-foin*. *Cock's-head*. Leaves pinnate, nearly smooth; legume one-seeded, toothed at the margin and ribs; wings not longer than the calyx; stem elongated.—Stem two or three feet long: flowers crimson, in axillar clusters. Cultivated for feeding cattle. Perennial: flowers in June and July: grows in dry hilly pastures in England: frequent. *Eng. Bot.* vol. ii. pl. 96. *Eng. Fl.* vol. iii. p. 292. 1062.

## 16. ASTRAGALUS. MILK-VETCH.

Calyx inferior, tubular, permanent, with five acute teeth, the lower gradually longer. Corolla of five petals; standard egg-shaped, obtuse, erect, longer than the rest; wings oblong, shorter; keel as long as the wings, rounded in front, of two united petals, with separate claws. Filaments ten, nine united into a compressed tube, open above, the other hair-like, separate; anthers

roundish. Germen oblong, compressed. Style awl-shaped, ascending; stigma obtuse. Legume tumid, with two longitudinal cells. Seeds one or more, kidney-shaped.—Named *astragalus*, the back-bone, in allusion to the knotted root of one species.

361.

1. *A. glycyphylloides*. *Sweet Milk-vetch*. Stem prostrate; legumes obscurely three-cornered, curved, smooth; leaves longer than the flower-stalks; leaflets oval.—Stems two or three feet long: nearly smooth: flowers pale-yellow, in egg-shaped spikes, on short axillar stalks. Perennial: flowers in June: grows in woods, thickets, and pastures, in gravelly soil: frequent in England; rare in Scotland. *Eng. Bot.* vol. iii. pl. 203. *Eng. Fl.* vol. iii. p. 294.

1063.

2. *A. hypoglottis*. *Purple Mountain Milk-vetch*. Stem prostrate; flowers in roundish heads; legumes egg-shaped, compressed, hairy, hooked at the point; leaflets obtuse.—Stems from two to six inches long: flowers purplish-blue, variegated with white, in stalked axillar heads. Perennial: flowers in June and July: grows in dry pastures: frequent; not uncommon in Scotland, near the sea. *Eng. Bot.* vol. iv. pl. 274. *Eng. Fl.* vol. iii. p. 294.

1064.

3. *A. alpinus*. Stems procumbent, branches and leaves downy; stipules egg-shaped; flowers in a dense cluster, drooping; legumes stalked, pendulous, elliptical, attenuated at either end.—Root branched, slender: stems slender, branched, procumbent and smooth at the base: down of the branches and leaves adpressed: flowers eight to fourteen, with the calyx green, the corolla white, tipped with light-purple. Perennial: flowers in July: discovered by Mr. Brand on a cliff near the head of Glen Dole, Clova, in 1831. *Eng. Bot. Suppl.* pl. 2717. *Brit. Fl.* 4th ed. p. 272.

1065.

4. *A. Uralensis*. *Hairy Mountain Milk-vetch*. Stem none; flower-stalk erect, longer than the leaves; legumes oblong, pointed, hairy, erect; leaflets egg-shaped, acute, covered with silky hairs.—Flowers bluish-purple, in round dense heads. Perennial: flowers in July: grows in dry mountain pastures in Scotland: rare. *Eng. Bot.* vol. vii. pl. 466. *Eng. Fl.* vol. iii. p. 295.

1066.

5. *A. campestris*. *Yellowish Mountain Milk-vetch*. Stem none; scape ascending; legumes egg-shaped, inflated, hairy, erect; leaflets lance-shaped, acute, somewhat hairy.—Flowers yellowish, the keel and wings tinged with purple. Perennial: flowers in July: grows on high rocks in Scotland: very rare. Clova Mountains, Forfarshire. *Eng. Bot.* vol. xxxvi. pl. 2522. *Eng. Fl.* vol. iii. p. 296.

1067.

## 17. TRIFOLIUM. TREFOIL. CLOVER.

Calyx inferior, tubular, five-toothed, permanent. Corolla of four petals, all more or less united by their long claws, generally permanent, withering; standard reflected; wings oblong, shorter than the standard; keel of one petal, shorter than the wings. Filaments ten, nine united into a compressed tube, the other hair-like, separate; anthers roundish. Germen oblong. Style awl-shaped, curved upwards; stigma simple, smooth. Legume short, membranous, one-valved, one-celled, not bursting, hardly

longer than the calyx. Seeds from one to four, roundish, smooth.—Name from *tria*, three, and *folia*, leaves. 362.

\* *Flowers in clusters or spikes.*

1. *T. officinale*. *Common Melilot*. Clusters with the flowers pointing one way; legume protruding, acute, transversely wrinkled, hairy, two-seeded; stem erect; stipules awl-shaped.—Stem two or three feet high, erect, branched, angular: leaflets serrate: flowers yellow, in axillar, long-stalked clusters. In drying it emits a strong smell, resembling that of new hay. Cultivated as food for cattle. Annual: flowers in June and July: grows in thickets, hedges, and borders of fields. *Eng. Bot.* vol. xix. pl. 1240. *Eng. Fl.* vol. iii. p. 297. A variety with white flowers has been described as a distinct species. *Eng. Bot. Suppl.* pl. 2689. *Brit. Fl.* 4th ed. p. 274. 1668.

\*\* *Flowers in heads; legumes many-seeded.*

2. *T. ornithopodioides*. *Birds-foot Trefoil*. Flowers about three in each head; legume protruding, eight-seeded, twice as long as the calyx; stems decumbent.—Stem from three to five inches long: flowers rose-coloured. Annual: flowers in June and July: grows in dry, sandy, or gravelly pastures: not common. *Eng. Bot.* vol. xv. pl. 1017. *Eng. Fl.* vol. iii. p. 298. 1069.

3. *T. repens*. *White Trefoil*. *Dutch Clover*. Heads of flowers stalked, spherical, the flowers on short stalks; legume four-seeded, included within the calyx; stems creeping; leaflets inversely heart-shaped.—Stems from six to twelve inches long: flowers white, fragrant: leaflets generally brown on the back. A valuable pasture plant, supposed erroneously to indicate a rich soil. Perennial: flowers from May to September: grows in meadows and pastures, abundantly. *Eng. Bot.* vol. xxv. pl. 1769. *Eng. Fl.* vol. iii. p. 292. 1070.

4. *T. suffocatum*. *Suffocated Trefoil*. Heads of flowers sessile, lateral, roundish; legume two-seeded, concealed within the calyx; teeth of the calyx lance-shaped, acute, recurved, longer than the corolla.—The whole plant generally buried in sand: flowers pale rose-colour. Annual: flowers in June and July: grows on the sandy sea-coast at Yarmouth, and other places in England. *Eng. Bot.* vol. xv. pl. 1049. *Eng. Fl.* vol. iii. p. 300. 1071.

\*\*\* *Flowers in heads; legumes one-seeded, calyx generally hairy.*

5. *T. subterraneum*. *Subterraneous Trefoil*. Heads of about four flowers, hairy; central, reflected, stiff, starry tuft of fibres from the top of the stalk embracing the fruit.—Stems pressed close to the ground, from three to six inches long, hairy: flowers white, at first erect, afterwards bent to the ground, the stalk sending out from its extremities several fibres. Annual: flowers in May: grows in dry gravelly pastures in England: frequent. *Eng. Bot.* vol. xv. pl. 1048. *Eng. Fl.* vol. iii. p. 300. 1072.

6. *T. ochroleucum*. *Sulphur-coloured Trefoil*. Flowers in a solitary terminal head; stem erect, downy; lower leaflets inversely heart-shaped; lowest tooth of the calyx thrice as long as the rest.—Stems from twelve to eighteen inches high: flowers pale-yellow. Perennial: flowers in June and July: grows in dry pastures, in England: frequent. *Eng. Bot.* vol. xvii. pl. 1224. *Eng. Fl.* vol. iii. p. 301. 1073.

7. *T. pratense*. *Common Purple Clover*. Heads dense, egg-shaped; stems ascending; petals unequal; lower calyx-tooth longer than the rest, which are equal; stipules egg-shaped, bristle-pointed.—Stems about a foot high: leaflets elliptical, entire, nearly smooth: flowers purple, sweet-scented. A valuable pasture plant, extensively cultivated. Perennial: flowers in June and July: grows in pastures: common. *Eng. Bot.* vol. xxv. pl. 1770. *Eng. Fl.* vol. iii. p. 302. 1074.

8. *T. medium*. *Zig-zag Trefoil*. Heads egg-shaped, loose; stems zig-zag; petals nearly equal; two upper calyx-teeth rather shorter; stipules linear, parallel.—Stems about a foot high, branched: leaflets elliptical, notched, hairy: flowers purple. Perennial: flowers in June and July: grows in dry pastures and thickets: frequent. *Eng. Bot.* vol. iii. pl. 290. *Eng. Fl.* vol. iii. p. 302. 1075.

9. *T. maritimum*. *Teasel-headed Trefoil*. Heads egg-shaped, somewhat hairy; stipules lance-shaped, erect; calyx-teeth after flowering dilated, leafy; leaflets inversely egg-shaped.—Stems spreading, about a foot long: flowers pale-red. Annual: flowers in June and July: grows in salt marshes, on the eastern and southern coasts of England, and in Ireland. *Eng. Bot.* vol. iv. pl. 220. *Eng. Fl.* vol. iii. p. 303. 1076.

10. *T. stellatum*. *Starry-headed Trefoil*. Heads roundish, hairy; stipules elliptical; calyx-teeth longer than the corolla, after flowering dilated, leafy, the tube closed; leaflets inversely heart-shaped.—Stems spreading, hairy: flowers light-crimson. Annual: flowers in July and August; found by Mr. Borrer between Shoreham harbour, in Sussex, and the sea, where it has been naturalized. *Eng. Bot.* vol. xxii. pl. 1545. *Eng. Fl.* vol. iii. p. 304. 1077.

11. *T. arvense*. *Hare's-foot Trefoil*. Heads oval, very hairy; stipules lance-shaped, bristle-pointed; calyx-teeth longer than the corolla, permanently bristle-shaped; leaflets narrow, inversely egg-shaped.—Stem from four inches to a foot high, erect, branched: flowers with pale-red or white petals. Annual: flowers in July and August: grows in dry pastures and fields: common. *Eng. Bot.* vol. xiv. pl. 944. *Eng. Fl.* vol. iii. p. 305. 1078.

12. *T. scabrum*. *Hard-knotted Trefoil*. Heads egg-shaped, sessile, axillar; calyx-teeth unequal, lance-shaped, stiff, ultimately recurved; stems procumbent.—Stem from three to nine inches long, stiff, hairy: flowers whitish. Annual: flowers in May and June: grows in dry sandy fields: not common. *Eng. Bot.* vol. xiii. pl. 903. *Eng. Fl.* vol. iii. p. 306. 1079.

13. *T. glomeratum*. *Smooth round-headed Trefoil*. Heads hemispherical, sessile, axillar; calyx-teeth heart-shaped, veiny, smooth, reflected; stems prostrate.—Stems from three inches to a foot long, straight: flowers rose-coloured. Annual: flowers in June: grows in gravelly fields and pastures in the east and south of England. *Eng. Bot.* vol. xv. pl. 1063. *Eng. Fl.* vol. iii. p. 307. 1080.

14. *T. stridum*. *Soft-knotted Trefoil*. Heads egg-shaped, sessile, axillar and terminal; calyx elliptical, furrowed, hairy, with bristle-shaped teeth; stems procumbent.—From four to ten inches long: flowers pale rose-coloured. Annual: flowers in June: grows in sandy fields and pastures: frequent. *Eng. Bot.* vol. xxvi. pl. 1843. *Eng. Fl.* vol. iii. p. 307. 1081.

\*\*\* Legumes one-seeded. Calyx of the fruit inflated.

15. *T. fragiferum*. Strawberry-headed Trefoil. Heads roundish upon long stalks; calyx at length inflated, membranous, two of its teeth reflected; stems creeping.—Stems prostrate, creeping, smooth; leaflets inversely heart-shaped, serrate: flowers rose-coloured: calyces finally red, the head in this state resembling a strawberry. Perennial: flowers in July and August: grows in meadows and pastures: not common. *Eng. Bot.* vol. xv. pl. 1050. *Eng. Fl.* vol. iii. p. 388. 1082.

16. *T. resupinatum*. Reversed Trefoil. Heads roundish, on short stalks; calyx at length membranous, inflated, acute, hairy, two of its teeth longer and spreading; corolla reversed.—Stems procumbent: leaflets inversely egg-shaped. Annual: flowers in July: found in meadows near Bristol, and Poole, Dorsetshire, but is not truly wild. *Eng. Bot. Suppl.* pl. 2789. *Brit. Fl.* 4th ed. p. 277. 1083.

\*\*\*\* Legumes one-seeded. Standards finally deflected, dry and membranous.

17. *T. procumbens*. Hop Trefoil. Heads oval, many-flowered; standard finally deflected, furrowed; stems spreading or procumbent; common leaf-stalk longer than the middle partial leaf-stalk.—Stems very numerous, spreading all round, from four inches to a foot long: heads of about fifty bright-yellow flowers. Annual: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xiv. pl. 945. *Eng. Fl.* vol. iii. p. 309. 1084.

18. *T. filiforme*. Slender Yellow Trefoil. Clusters loose, few-flowered; common flower-stalks thread-like, waved; standard even; stems prostrate; common leaf-stalk shorter than the nearly sessile middle leaflet.—Stems thread-like, from four to ten inches long: flowers yellow, three or four only in each cluster. Annual: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xviii. pl. 1257. *Eng. Fl.* vol. iii. p. 311. The *T. minus*, Lesser Yellow Trefoil, is a large variety of this plant, with heads of many flowers and leaf-stalks longer than the leaves. *Eng. Bot.* vol. xviii. pl. 1256. *Eng. Fl.* vol. iii. p. 310. 1085.

#### 18. LOTUS. BIRD'S-FOOT TREFOIL.

Calyx inferior, tubular, permanent, with five acute, nearly equal teeth. Corolla of five petals, deciduous; standard inversely egg-shaped, ascending with a vaulted claw; wings oblong, obtuse, approaching each other, shorter than the standard; keel prominent beneath, closed above, of two united petals, with an ascending point, and short separated claws. Filaments ten, nine united into a compressed tube, split above, the other hair-like, separate, all generally dilated under the anthers; anthers small, roundish. Germen cylindrical. Styles thread-shaped, ascending at a right angle; stigma simple. Legume cylindrical, straight, much longer than the calyx, two-valved, one-celled, the seeds separated by a spongy substance. Seeds globular.—Name, *lotos*, of the Greeks. 363.

1. *L. corniculatus*. Common Bird's-foot Trefoil. Heads few-flowered, depressed; stems procumbent; legumes spreading, nearly cylindrical; claw of the standard broad; filaments all dilated under the anthers.—Stems several, spreading all round,

from four to ten inches long: flowers about three in each head, bright-yellow, generally streaked with red. Perennial: flowers from May to September: grows in pastures, abundantly. An excellent pasture plant. It presents several varieties, some of which have been considered as species, especially one with long slender stems, the *L. tenuis* of some botanists. *Eng. Bot.* vol. xxx. pl. 2090. *Eng. Fl.* vol. iii. p. 312. 1086.

2. *L. major*. *Greater Bird's-foot Trefoil*. Heads many-flowered, depressed; stems erect, hollow; legumes drooping, cylindrical; claw of the standard linear; shorter filaments not dilated.—Stems erect, from one to two feet high, succulent and tubular: flowers from six to twelve, yellow. Perennial: flowers in July and August: grows in moist pastures, and by ditches and hedges: common. *Eng. Bot.* vol. xxx. pl. 2091. *Eng. Fl.* vol. iii. p. 313. 1087.

3. *L. angustissimus*. *Slender Bird's-foot Trefoil*. Flowers solitary, or in pairs; stems tubular, much branched, prostrate; legumes two-edged, very slender; calyx loosely hairy, its teeth fringed, twice as long as the tube.—Stems from six to ten inches long: flowers yellow. Perennial: flowers in May and June: grows in meadows on the southern and western coasts of England and Ireland: very rare. *Eng. Bot.* vol. xiii. pl. 925. *Eng. Fl.* vol. iii. p. 315. 1088.

## 19. MEDICA'GO. MEDICK.

Calyx inferior, tubular, permanent, with five acute, nearly equal teeth. Corolla of five petals, deciduous; standard egg-shaped, ascending, with a short broad claw; wings inversely egg-shaped, cohering by their lower edges; keel of two united petals with separate claws, oblong, obtuse, depressed by the germen, and finally spreading widely. Filaments ten, nine united nearly to their summits into a compressed tube, split above, the other hair-like; separate, anthers small, roundish. Germen stalked, oblong, compressed, incurved or spiral, starting elastically from the keel, and forcing back the standard. Style awl-shaped, straight, ascending; stigma terminal, minute. Legume compressed, inflected, sickle-shaped, or spiral, one-celled, two-valved. Seeds several, kidney-shaped, smooth.—Name, from *Medike* of the Greeks, the plant having been introduced from Media. 364.

1. *M. falcata*. *Yellow Sickle Medick*. Clusters erect; legumes sickle-shaped; stem procumbent.—Stems about two feet long: flowers pale-yellow, sometimes green, occasionally purple. Perennial: flowers in June and July: grows in pastures and borders of fields, in some parts of England, but is not indigenous. *Eng. Bot.* vol. xv. pl. 1016. *Eng. Fl.* vol. iii. p. 317. 1089.

2. *M. lupulina*. *Black Medick Nonesuch*. Spikes egg-shaped, erect; legumes kidney-shaped, one-seeded; stem procumbent.—Resembles *Trifolium minus* in its stems and yellow flowers. Annual: flowers from June to September: grows in pastures and fields: common. *Eng. Bot.* vol. xiv. pl. 971. *Eng. Fl.* vol. iii. p. 318. 1090.

3. *M. maculata*. *Spotted Medick*. Stalks two or three-flowered; leaflets inversely heart-shaped, spotted; stipules acutely toothed; legumes spiral, depressed, fringed with long bristles.—Stems

prostrate: leaflets marked in the centre with an irregular dark spot: flowers yellow. Annual: flowers in May and June: grows in gravelly soil in the south of England. *Eng. Bot.* vol. xxiii. pl. 1616. *Eng. Fl.* vol. iii. p. 319. 1091.

4. *M. minima*. *Little Bur Medick*. Stalks many-flowered; stipules half egg-shaped, nearly entire; leaflets inversely egg-shaped, hairy; legumes globular, with two rows of hooked prickles.—Prostrate and silky: flowers yellow. Annual: flowers in June and July: grows in sandy fields in England: rare. *Eng. Fl.* vol. iii. p. 321. 1092.

5. *M. denticulata*. *Reticulated Medick*. Stalks few-flowered; stipules lacinate; leaflets inversely heart-shaped; legumes broad, loosely spiral, flat, reticulated, the margin keeled, with a double row of close-curved prickles. Annual: flowers from April to June: grows on the coasts of Kent and Norfolk: rare. Discovered by the Rev. G. E. Smith. *Eng. Bot. Suppl.* pl. 2634. *Brit. Fl.* 4th ed. p. 280. 1093.

### CLASS XVIII. POLYADELPHIA.

*Filaments united, forming more than two sets.*

Order I. POLYANDRIA. *Numerous Stamens.*

1. HYPERICUM. *Calyx* inferior, deeply divided into five segments. *Petals* five. *Filaments* united into three or five sets. *Capsule* many-seeded.

### POLYADELPHIA.—POLYANDRIA.

1. HYPERICUM. ST. JOHN'S-WORT.

*Calyx* inferior, of one leaf, deeply divided into five nearly egg-shaped, concave, permanent segments. *Petals* five, egg-shaped or oblong, obtuse, expanding, overlapping each other laterally. *Filaments* numerous, hair-like, united at the base into three or five sets; anthers small, roundish. *Germen* superior, egg-shaped. *Styles* varying from five to one, simple, distant; stigmas simple. *Capsule* roundish, with as many cells as there are styles. *Seeds* numerous.—Name, *hypericon* of Dioscorides.

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1. *H. calycinum*. *Large-flowered St. John's-wort*. *Styles* five; flowers solitary; stem woody, four-cornered, branched; segments of the calyx inversely egg-shaped, obtuse; leaves oblong.—Root creeping: stems erect, twelve or eighteen inches high: leaves leathery, ever-green, very shortly stalked: flowers golden-yellow. A shrub: flowers in July and August: grows in bushy places: rare, and not indigenous. *Eng. Bot.* vol. xxix. pl. 2017. *Eng. Fl.* vol. iii. p. 323. 1094.

2. *H. Androsaemum*. *Tutsan*. *Styles* three; capsule pulpy; stem woody, compressed; leaves egg-shaped, sessile.—Two or three feet high: flowers yellow, in terminal panicles: capsule purplish-black. A shrub: flowers in July: grows in hedges and bushy



places : rare in England, not uncommon in the west of Scotland and Ireland. *Eng. Bot.* vol. xviii. pl. 1225. *Eng. Fl.* vol. iii. p. 323. 1095.

3. *H. quadrangulum*. *Square St. John's-wort*. Styles three; stem herbaceous, acutely four-cornered; leaves egg-shaped, with pellucid dots; segments of the calyx lance-shaped.—Root creeping: stems from one to two feet high, erect, leafy, with numerous leafy opposite branches: leaves in pairs, sessile: petals yellow, generally streaked with dark-purple. Perennial: flowers in July and August: grows in moist meadows and hedges: common. *Eng. Bot.* vol. vi. pl. 370. *Eng. Fl.* vol. iii. p. 324. 1096.

4. *H. perforatum*. *Perforated or Common St. John's-wort*. Styles three; stem two-edged; leaves elliptical, with pellucid dots; segments of the calyx lance-shaped.—Stem from one to two feet high, branched: flowers bright-yellow, dotted and streaked with dark-purple, in terminal panicles: petals and calyx fringed with small black glands. This plant has long held a place in the *Ma'eria Medica*, being aromatic and stimulant. The flowers tinge spirits and oils of a fine purple colour. Perennial: flowers in June and July: grows in dry pastures, woods, and open heaths: common. *Eng. Bot.* vol. v. pl. 295. *Eng. Fl.* vol. iii. p. 325. 1097.

5. *H. dubium*. *Imperforate St. John's-wort*. Styles three; stem obscurely four-cornered; leaves elliptical, obtuse, without pellucid dots; segments of the calyx elliptical.—Stem from one to two feet high: flowers bright-yellow, in terminal panicles: petals and calyx dotted and blotched with dark-purple. Perennial: flowers in July and August: grows in rather mountainous woods: not common. *Eng. Bot.* vol. v. pl. 296. *Eng. Fl.* vol. iii. p. 326. 1098.

6. *H. humifusum*. *Trailing St. John's-wort*. Stems three; stem compressed, prostrate; leaves elliptical, smooth; segments of the calyx egg-shaped.—Stems branched, from six inches to a foot long: margins of the leaves with dark spots: petals and segments of the calyx more or less fringed with black glands. Perennial: flowers in July: grows in pastures and on dry heaths: not very common. *Eng. Bot.* vol. xviii. pl. 1226. *Eng. Fl.* vol. iii. p. 326. 1099.

7. *H. montanum*. *Mountain St. John's-wort*. Styles three; stem erect, round, smooth; leaves egg-shaped, smooth, embracing the stem; calyx with glandular serratures.—Stems about two feet high, simple, leafy: leaves small, sprinkled with small pellucid dots, their margins with black glandular dots: petals pale-yellow: bractees and calyx margined with black glands. Perennial: flowers in July: grows in hilly places, in woods and thickets: not common. *Eng. Bot.* vol. vi. pl. 371. *Eng. Fl.* vol. iii. p. 327. 1100.

8. *H. linearifolium*. *Linear-leaved St. John's-wort*. Styles three; stem erect, procumbent below, round, smooth; segments of the calyx lance-shaped, with black spots and glandular serratures; leaves linear, obtuse.—Flowers rather large, yellow, in terminal cymes: leaves with the margins rolled back. Perennial: flowers in July and August: discovered by Mr. Babington in Jersey, growing on the dry slopes of hills in several parts of the island. *Brit. Fl.* 4th ed. p. 282. *Prim. Fl. Sarn.* p. 20. 1101.

9. *H. hirsutum*. *Hairy St. John's-wort*. Styles three; stem erect, rounded, leaves egg-shaped, downy; segments of the calyx lance-

shaped, with glandular serratures.—Stems about two feet high, numerous, erect, downy, as well as the leaves: flowers bright-yellow, very numerous: bracteas and segments of the calyx fringed with black glands. Perennial: flowers in July: grows in woods and thickets: frequent. *Eng. Bot.* vol. xvii. pl. 1156. *Eng. Fl.* vol. iii. p. 328. 1102.

10. *H. pulehrum*. *Small Upright St. John's-wort*. Styles three; stem erect, round; leaves heart-shaped, smooth, clasping the stem; segments of the calyx egg-shaped, with glandular serratures.—Stem about two feet high, panicled at the top. The whole plant smooth. Petals bright-yellow, tipped externally with red, fringed like the calyx, with black glands. Perennial: flowers in July: grows in woods, on heaths, and in dry pastures: frequent. *Eng. Bot.* vol. xviii. pl. 1227. *Eng. Fl.* vol. iii. p. 329. 1103.

11. *H. elodes*. *Marsh St. John's-wort*. Styles three; stems pro-cumbent, creeping, round; leaves roundish, hairy; segments of the calyx obtuse, with glandular serratures.—Stems about six inches long, branched at the base, prostrate, hairy, as are the leaves. flowers pale-yellow. Perennial: flowers in July and August: grows in boggy places: not common. *Eng. Bot.* pl. 109. *Eng. Fl.* vol. iii. p. 330. 1104.

## CLASS XIX. SYNGENESIA.

*Plants bearing compound Flowers having their anthers united into a tube.*

### Order I. POLYGAMIA ÆQUALIS.

*Florets all perfect, each having five stamens and one pistil, and producing one seed.*

\* *All the corollas strap-shaped.*

10. HYPOCHIERIS. *Receptacle chaffy. Seed-down feathery. Calyx oblong, imbricated.*
12. CICHORIUM. *Receptacle slightly chaffy. Seed-down chaffy, shorter than the seed. Calyx double.*
9. CREPIS. *Receptacle roughish. Seed-down simple. Calyx double; the outer lax, tumid, deciduous.*
8. HIERACIUM. *Receptacle nearly naked, dotted. Seed-down simple, sessile. Calyx egg-shaped, imbricated.*
7. APARGIA. *Receptacle naked, dotted. Seed-down feathery, sessile, unequal. Calyx double; the inner imbricated.*
2. PTERIS. *Receptacle naked. Seed-down feathery. Calyx double; inner of equal leaves; outer lax.*
1. TRAGOPOGON. *Receptacle naked. Seed-down feathery, stalked. Calyx simple, of equal leaves in two rows.*
6. LEONTODON. *Receptacle naked. Seed-down feathery, stalked. Calyx nearly egg-shaped, imbricated.*
4. LACTUCA. *Receptacle naked. Seed-down simple, stalked. Calyx imbricated, simple, cylindrical; scales membranous at the margin.*
5. PRENANTHES. *Receptacle naked. Seed-down simple, nearly sessile. Calyx double. Florets few.*

3. *SONCHUS*. *Receptacle* naked, dotted. *Seed-down* simple, sessile. *Calyx* imbricated, simple, swelled at the base.
11. *LAPSA'NA*. *Receptacle* naked. *Seed-down* none. *Calyx* having scales at the base.
- \*\* *Corollas* all tubular, generally spreading so as to form  
a hemispherical head.
18. *CARLI'NA*. *Receptacle* chaffy. *Seed-down* feathery. *Calyx* swelling; the outer scales thorny; the inner coloured, polished, membranous.
13. *ARCTIUM*. *Receptacle* chaffy. *Seed-down* simple. *Calyx* globose, imbricated; the scales thorny, hooked, inflected.
15. *CARDUUS*. *Receptacle* hairy. *Seed-down* simple, roughish, deciduous. *Calyx* swelled, imbricated; the scales thorny.
16. *CNICUS*. *Receptacle* hairy. *Seed-down* feathery, deciduous. *Calyx* swelled, imbricated; the scales thorny.
17. *ONOPORDUM*. *Receptacle* cellular, somewhat chaffy. *Seed-down* rough, deciduous. *Calyx* swelled; scales thorny, spreading.
14. *SERRATULA*. *Receptacle* chaffy. *Seed-down* stiff, persistent. *Calyx* nearly cylindrical, imbricated; the scales thornless.  
(*Centaurea Jaccu.*)

\*\*\* *Corollas* all tubular, parallel, crowded, forming nearly  
a level surface at the top.

19. *BIDENS*. *Receptacle* chaffy. *Seed-down* rough with reversed prickles. *Calyx* of many parallel, channelled scales. *Corolla* sometimes radiated.
22. *DIO'TIS*. *Receptacle* chaffy, with hair-tipped scales. *Seed-down* none. *Calyx* imbricated, hemispherical. *Corollas* with two ears bordering the seed.
20. *EUPATORIUM*. *Receptacle* naked. *Seed-down* rough. *Calyx* imbricated, oblong. *Style* cleft half-way down, protruded.
21. *CHRYSO'COMA*. *Receptacle* naked. *Seed-down* rough. *Calyx* scarcely longer than the corolla.

(*Tenacetum*. *Senecio vulgaris*. *Aster Tripolium*. *Anthemis nobilis*.)

## Order II. POLYGAMIA SUPERFLUA.

*Florets* all fertile, those of the disk furnished with five stamens and one pistil, those of the circumference with a pistil alone.

\* *Corollas* of the marginal florets obsolete or inconspicuous.

23. *TENACE'TUM*. *Receptacle* naked. *Seed* with a membranous crown. *Calyx* imbricated, hemispherical. *Marginal florets* three-cleft, obsolete, sometimes wanting.
26. *CONY'ZA*. *Receptacle* naked. *Seed-down* rough. *Calyx* imbricated, roundish. *Marginal florets* three-cleft.
25. *GNAPHA'LIUM*. *Receptacle* naked. *Seed-down* rough or feathery. *Calyx* imbricated, with membranous, coloured scales. \**Marginal florets* awl-shaped.
24. *ARTEMISIA*. *Receptacle* naked or hairy. *Seed-down* none. *Calyx* imbricated, with rounded converging scales. *Marginal florets* awl-shaped, entire.

(*Tussilago Farfara* and *hybrida*.)

**\*\* Corollas of the marginal florets strap-shaped.**

36. *BELLIS*. *Receptacle* naked, conical. *Seed-down* none. *Calyx* hemispherical; scales equal. *Seed* inversely egg-shaped.
39. *MATRICA'RIA*. *Receptacle* naked, nearly cylindrical. *Seed-down* none. *Calyx* hemispherical or nearly plane, imbricated; the scales membranous on the edges.
37. *CHRYSANTHEMUM*. *Receptacle* naked, a little convex. *Seed-down* none. *Calyx* hemispherical, imbricated; the scales with a dilated membranous border.
38. *PYRETHRUM*. *Receptacle* naked. *Seed* crowned with a membranous border. *Calyx* hemispherical, imbricated; the scales rather acute, membranous at the edges.
35. *DORONICUM*. *Receptacle* naked. *Seed-down* simple, wanting on the seeds of the rays. *Calyx* a double row of equal scales, longer than the disk.
33. *INULA*. *Receptacle* naked. *Seed-down* simple. *Calyx* hemispherical, imbricated. *Marginal florets* very numerous, linear. *Anthems* with two bristles at the base.
27. *ERIGERON*. *Receptacle* naked. *Seed-down* simple. *Calyx* imbricated. *Marginal florets* numerous, linear, very narrow. *Anthems* without bristles.
32. *SOLIDA'GO*. *Receptacle* naked, pitted. *Seed-down* simple. *Calyx* imbricated, its scales close. *Marginal florets* about five.
31. *A'STER*. *Receptacle* naked. *Seed-down* simple. *Calyx* imbricated, the lower scales spreading. *Marginal florets* more than ten.
30. *SENE'CIO*. *Receptacle* naked. *Seed-down* simple. *Calyx* double; the inner cylindrical, of equal scales; the outer of several minute ones; all the scales withered-looking at the tip.
28. *TUSSILA'GO*. *Receptacle* naked. *Seed-down* simple. *Calyx* simple, swelled at the base; scales numerous, equal, somewhat membranous. *Corolla* rayed.
29. *PETASITES*. *Receptacle* naked. *Seed-down* simple. *Calyx* egg-shaped, imbricated with two rows of lanceolate scales. *Florets* tubular.
34. *CINERA'RIA*. *Receptacle* naked. *Seed-down* simple. *Calyx* simple, cylindrical; scales numerous, equal. *Seed* four-cornered.
40. *ANTHEMIS*. *Receptacle* convex, chaffy. *Seeds* crowned with a membranous border. *Calyx* hemispherical; its scales nearly equal, their margins membranous.
41. *ACHILLE'A*. *Receptacle* flat, chaffy. *Seed-down* none. *Calyx* egg-shaped, imbricated; the scales unequal. *Marginal florets* few, roundish.

(*Bidens cernua*.)

### Order III. POLYGAMIA FRUSTRANEA.

*Florets of the disk perfect and fertile; those of the circumference destitute of both stamens and pistil.*

42. *CENTAURE'A*. *Receptacle* bristly. *Seed-down* simple or feathery. *Calyx* imbricated. *Marginal florets* funnel-shaped, dilated, irregular.

## POLYGAMIA ÆQUALIS.

## 1. TRAGOON. GOAT'S-BEARD.

Common calyx simple, of several lance-shaped equal scales, arranged alternately in two rows, all connected at the base, permanent. Compound corolla imbricated, uniform. Florets numerous, all perfect, strap-shaped, abrupt, five-toothed. Filaments five, hair-like, very short; anthers united into a tube. Germen inversely egg-shaped. Style thread-shaped, as long as the anthers; stigmas two, revolute. Seeds inclosed by the permanent calyx, one to each floret, oblong, angular, striated, tapering at both ends, crowned by the seed-down, which is feathery and supported on a long stalk; receptacle naked, flat, rough.—Name from *tragos*, a goat, and *pogon*, beard. 366.

1. *T. pratensis*. *Yellow Goat's-beard*. Calyx about as long as the corolla; leaves tapering, keeled, dilated at the base, smooth; flower-stalk cylindrical.—The whole plant smooth, abounding with milky juice: stems erect, round, leafy, from one to two feet high: flowers yellow. Biennial: flowers in June: grows in pastures. *Eng. Bot.* vol. vii. pl. 434. *Eng. Fl.* vol. iii. p. 337. A variety of this species, with the calyx much longer than the corolla, and the flower-stalk slightly enlarged upwards, is the *T. Major*, *Greater Goat's-beard*, of some. 1105.

2. *T. porrifolius*. *Purple Goat's-beard*. Calyx much longer than the corolla; leaves tapering; flower-stalk enlarged upwards.—The whole plant smooth: stem three or four feet high, erect: flowers purple. Biennial: flowers in May and June: grows in moist meadows and pastures, but is not indigenous: rare. *Eng. Bot.* vol. ix. pl. 638. *Eng. Fl.* vol. iii. p. 338. 1106.

## 2. PYCRIS. OX-TONGUE.

Common calyx double; the outer of several flat scales; the inner egg-shaped, of many equal parallel leaves. Corolla compound, imbricated, uniform; florets numerous, perfect, strap-shaped, abrupt, five-toothed. Filaments five, hair-like, very short; anthers united into a tube. Germen nearly egg-shaped. Style thread-shaped, as long as the stamens; stigmas two, reflected. Seeds one to each floret, swelled, obtuse, transversely wrinkled; seed-down feathery, sessile or stalked. Receptacle naked, dotted.—Name from *picros*, bitter. 367.

1. *P. echioides*. *Bristly Ox-tongue*. Outer calyx of five broad, prickly scales; seed-down stalked; leaves waved.—Stem two or three feet high, round, furrowed: lower leaves lance-shaped, upper heart-shaped, embracing the stem: flowers bright-yellow. Annual: flowers in June and July: grows in hedges and borders of fields, in England, and about Dublin: frequent. *Eng. Bot.* vol. xiv. pl. 972. *Eng. Fl.* vol. iii. p. 339. 1107.

2. *P. hieracioides*. *Hawkweed Ox-tongue*. Outer calyx of numerous scales, much shorter than the inner; leaves lance-shaped, waved, the lower ones toothed; seed-down sessile; stem rough.—Stem three feet high, furrowed, rough: leaves lance-shaped, acute,

hairy: flowers bright-yellow. Biennial: flowers in July and August: grows on dry banks and in the borders of fields: frequent. *Eng. Bot.* vol. iii. pl. 196. *Eng. Fl.* vol. iii. p. 340. 1108.

### 3 SONCHUS. 7 SOW-THISTLE.

Common calyx swelled at the base, of numerous linear, imbricated, unequal scales. Compound corolla imbricated, uniform: florets numerous, perfect, equal, strap-shaped, abrupt, with four or five teeth. Filaments five, hair-like, very short; anthers united into a cylindrical tube. Germen somewhat inversely egg-shaped. Style thread-shaped, as long as the stamens; stigmas two, reflected. Seeds oblong, roughish, inclosed by the permanent calyx, which converges into a globular, pointed form: seed-down of many simple hairs, sessile. Receptacle naked, dotted.—Name, from *somphos*, soft. 368.

1. *S. alpinus*. *Blue Alpine Sow-thistle*. Flower-stalks and calyx bristly, leaves somewhat lyre-shaped, their terminal lobe triangular and very large.—Stems three feet high, erect, furrowed, smooth below, hairy above, flowers large, numerous, purplish-blue. Perennial: flowers in July and August: grows in rocky places, in Glen Dole and Glen Isla, Forfarshire. *Eng. Bot.* vol. xxxiv. pl. 2425. *Eng. Fl.* vol. iii. p. 341. 1109.

2. *S. palustris*. *Tall Marsh Sow-thistle*. Flower-stalks and calyx bristly, somewhat umbellate; leaves runcinate, rough-edged, arrow-shaped at the base.—Stem from four to eight feet high, angular, hollow: leaves large, smooth: panicles terminal, somewhat umbellate: flowers pale-yellow. Perennial: flowers in July and August: grows in marshy places and on the banks of rivers, in England: rare. *Eng. Bot.* vol. xiii. pl. 935. *Eng. Fl.* vol. iii. p. 342. 1110.

3. *S. arvensis*. *Corn Sow-thistle*. Flower-stalks and calyx bristly, somewhat umbellate; leaves runcinate, finely toothed, heart-shaped, at the base; root creeping.—Stem three or four feet high, round, hollow, rough above with black hairs: flowers large, deep-yellow. Perennial: flowers in August: grows in corn-fields and hedges: common. *Eng. Bot.* vol. x. pl. 674. *Eng. Fl.* vol. iii. p. 342. 1111.

4. *S. oleraceus*. *Common Sow-thistle*. Flower-stalks cottony, cymose; calyx smooth; leaves runcinate, toothed.—Stem from one to two feet high, round, smooth, hollow: corolla pale-yellow. Subject to numberless variations, but in all its states easily distinguishable. Annual: flowers from June to October: grows in cultivated ground, the borders of fields, waste places, and hedges: common. *Eng. Bot.* vol. xii. pl. 843. *Eng. Fl.* vol. iii. p. 343. 1112.

### 4. LACTUCA. LETTUCE.

Common calyx cylindrical, of numerous, pointed, imbricated, unequal, flat scales, membranous at the margin. Compound corolla imbricated, uniform; florets numerous, perfect, equal, strap-shaped, abrupt, with four or five teeth. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen somewhat egg-shaped. Style thread-shaped, as long as the stamens; stigmas two, reflected. Seeds egg-shaped, furrowed,

roughish, compressed; seed-down hair-like, stalked. Receptacle naked, dotted.—Name, from *lac*, milk, on account of its white juice. 369.

1. *L. virósa*. *Strong-scented Lettuce*. Leaves horizontal, toothed; their keel prickly.—Stem two or three feet high, erect, round, smooth: root-leaves numerous, inversely egg-shaped, stem-leaves smaller, frequently lobed, arrow-shaped and embracing at the base: flowers numerous, pale-yellow, panicle. The whole plant abounds with an acrid milky juice, having the narcotic properties of opium. Biennial: flowers in August and September: grows in borders of fields and about hedges and old walls: frequent in England, rare in Scotland. *Eng. Bot.* vol. xxviii. pl. 1957. *Eng. Fl.* vol. iii. p. 345. 1113.

2. *L. Scariola*. *Prickly Lettuce*. Leaves perpendicular, sinuated; finely toothed, their keel prickly.—Stem two or three feet high, erect, panicle: leaves variously pinnatifid and sinuate: flowers pale-yellow. It abounds in acrid milky fluid like the last. Perennial: flowers in August: grows in waste ground and the borders of fields, in Essex and Cambridge. *Eng. Bot.* vol. iv. pl. 268. *Eng. Fl.* vol. iii. p. 346. 1114.

3. *L. saligna*. *Least Lettuce*. Leaves linear, halbert-shaped, sessile, their keel prickly.—Stem two feet high, waved: leaves embracing the stem: flowers pale-yellow: milky. Biennial: flowers in August: grows in waste ground near salt marshes, in the south-east of England: rare. *Eng. Bot.* vol. x. pl. 707. *Eng. Fl.* vol. iii. p. 347. 1115.

## 5. PRENANTHES. WALL-LETTUCE.

Common calyx cylindrical, double; the inner of as many linear, equal scales as there are florets; the outer of a few, very short, unequal scales. Compound corolla of a single row of perfect, equal, strap-shaped, abrupt, four or five-toothed florets. Filaments five, hair-like, very short; anthers united into a slender cylindrical tube. Germens oblong. Style hair-like, longer than the stamens; stigmas two, revolute. Seeds oblong, furrowed: seed-down hair-like, roughish, sessile. Receptacle naked, very narrow.—Name, from *prenes*, drooping, and *anthos*, a flower. 370.

1. *P. muralis*. *Ivy-leaved Wall Lettuce*. Florets five; leaves runcinate.—Stem a foot high, round, hollow, panicle above: leaves embracing the stem: flowers erect, bright-yellow, with a purplish calyx. Perennial: flowers in July: grows on old walls and rocks: common. *Eng. Bot.* vol. vii. pl. 457. *Eng. Fl.* vol. iii. p. 348. 1116.

## 6. LEONTODON. DANDELION.

Common calyx oblong, double; the inner of several linear, equal, parallel scales; the outer of fewer and shorter ones. Compound corolla of very numerous, imbricated, equal, perfect, strap-shaped, abrupt, five-toothed florets. Filaments hair-like, short; anthers united into a cylindrical tube. Germen inversely egg-shaped, furrowed. Style cylindrical, longer than the stamens; stigmas two, revolute. Seed inversely egg-shaped, furrowed; seed-down in hair-like rays, on a long cylindrical stalk. Recep-

tacle naked, convex, dotted.—Name, from *leon*, a lion, and *odous*, a tooth, on account of the jagged leaves. 371.

1. *L. Tardiacum*. *Common Dandelion*. Outer scales of the calyx loose and reflected; leaves runcinate, smooth.—Flowers large, yellow, a single one on each tubular stalk. Bitter, but not disagreeably so. Perennial: flowers from March to August: grows on pastures, on banks, and by roads and walls: common. *Eng. Bot.* vol. viii. pl. 510. *Eng. Fl.* vol. iii. p. 349. 1117.

2. *L. pulstre*. *Marsh Dandelion*. Outer scales of the calyx close-pressed and erect; leaves lance-shaped, between sinuate and toothed, nearly smooth.—Much smaller than the last, and apparently distinct from it, its characters being permanent in every variety of situation. Perennial: flowers in May and June: grows generally in marshy places, sometimes in dry pastures, but always in ground that has not been subjected to cultivation. In many districts of Scotland, and especially in the Hebrides, it is much more common than the other species, of which, however, it seems to be the original. *Eng. Bot.* vol. viii. pl. 553. *Eng. Fl.* vol. iii. p. 350. 1118.

#### 7. APARGIA. HAWKBIT.

Common calyx double; the inner oblong, imbricated, of several linear, parallel, unequal scales; the outer very small, of irregularly scattered scales. Compound corolla of numerous, imbricated, uniform, perfect, strap-shaped, abrupt, five-toothed florets. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen oblong. Style thread-shaped, longer than the anthers; stigmas two, recurved. Seed oblong, striated; seed-down sessile, feathery, often scaly in the marginal seeds, sometimes a little stalked in the central ones. Receptacle naked, or slightly hairy, dotted.—Name used by the ancients. 372.

1. *A. hispida*. *Rough Hawkbit*. Stalks leafless, one-flowered; leaves runcinate, rough; florets hairy at their orifice, glandular at the end; seeds all with feathery down.—Root tapering, long, leaves hairy on both sides: stalks simple, round, rough: flowers bright-yellow. Perennial: flowers in July: grows in pastures: common. *Eng. Bot.* vol. viii. pl. 554. *Eng. Fl.* vol. iii. p. 351. 1119.

2. *A. hirta*. *Deficient Hawkbit*. Stalks leafless, one-flowered; leaves toothed, rough; calyx nearly smooth; outer row of seeds crowned with scales.—Root abrupt: flowers yellow. Perennial: flowers in July and August: grows in gravelly pastures and on moors: common. *Eng. Bot.* vol. viii. pl. 554. *Eng. Fl.* vol. iii. p. 352. 1120.

3. *A. autumnalis*. *Autumnal Hawkbit*. Flower-stalk branched, the partial stalks scaly, and swelled under the flowers; leaves lance-shaped, toothed, or pinnatifid, nearly smooth.—Root large, tapering: stalks from six inches to two feet high: leaves covered with scattered white hairs: flowers large, yellow. Perennial: flowers in July and August: grows in pastures and meadows, by way-sides and on banks: common. *Eng. Bot.* vol. xii. pl. 830: *Hedynois autumnalis*. *Eng. Fl.* vol. iii. p. 353. When the calyx and upper part of the flower-stalk is covered with blackish hairs, it becomes the *a. Taraxici*, *Dandelion Hawkbit*, of former botanists. *Eng. Bot.* vol. xvi. pl. 1109. *Hedynois Taraxici*. *Eng. Fl.* vol. iii. p. 352. 1121.



8. *HIERACIUM*. HAWKWEED.

Common calyx egg-shaped, imbricated, of numerous, linear, very unequal scales. Compound corolla of numerous, imbricated, uniform, perfect, strap-shaped, abrupt, five-toothed florets. Filaments hair-like, very short; anthers united into a cylindrical tube, much shorter than the floret. Germen nearly egg-shaped. Style thread-shaped, as long as the stamens; stigmas two, reflected. Seed egg-shaped or oblong, angular; seed-down sessile, hair-like, uniform. Receptacle convex, naked or nearly so, dotted.—Named from *hierax*, a hawk. 373.

<sup>4</sup> *Stalk from the root, leafless, or nearly so, single-flowered.*

1. *H. alpinum*. *Alpine Single-flowered Hawkweed*. Stalk leafless, hairy, one-flowered; leaves oblong, undivided, somewhat toothed; calyx hairy.—Plant covered with long whitish hairs: stalk about six inches high: flower large, bright-yellow. Perennial: flowers in July: grows on the higher mountains of Scotland and Wales: frequent. *Eng. Bot.* vol. xvi. pl. 1110. *Eng. Fl.* vol. iii. p. 355. 1122.

2. *H. pilosella*. *Mouse-ear Hawkweed*. Stalk leafless, one-flowered; leaves between elliptical and lance-shaped, entire, white and downy beneath; scions creeping.—Readily distinguished by its scions and pale-yellow flowers. Perennial: flowers in June and July: grows in dry pastures: common. *Eng. Bot.* vol. xvi. pl. 1093. *Eng. Fl.* vol. iii. p. 356. 1123.

\*\* *Stalk from the root, leafless, many-flowered.*

3. *H. aurantiacum*. *Orange Hawkweed*. Leaves elliptical, acute, entire; stalk, often bearing one or two leaves at the bottom, hairy, corymbose, many-flowered; calyx covered with long hairs.—Stalk about a foot high, with several deep orange-coloured flowers: leaves rough with short hairs. Perennial: flowers in June and July: grows in woods, but is not indigenous: rare. *Eng. Bot.* vol. xxi. pl. 1469. *Eng. Fl.* vol. iii. p. 358. 1124.

\*\*\* *Stem with one or two leaves, many-flowered.*

4. *H. murorum*. *Broad-leaved Wall Hawkweed*. Stem corymbose with a single leaf; leaves between egg-shaped and heart-shaped, waved, toothed at the base.—Leaves hairy, often purplish at the back: stems erect, from twelve to eighteen inches high, round, hairy, bearing four or five large yellow flowers: flower-stalks and calyx rough with black glandular hairs. Perennial: flowers in June: grows on rocks, debris, and old walls: common. *Eng. Bot.* vol. xxix. pl. 2082. *Eng. Fl.* vol. iii. p. 359. 1125.

5. *H. pulmonarium*. *Lungwort Hawkweed*. Stem somewhat corymbose, slightly leafy, solid; leaves lance-shaped, deeply and unequally toothed, the teeth directed forwards.—Stem about a foot high, round, striated: panicle of from two to six flowers, their stalks and calyx rough with black glandular hairs. Perennial: flowers in July: grows on rocks and woods in the mountainous parts of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2307. *Eng. Fl.* vol. iii. p. 362. 1126.

6. *H. laevis*. *Glaucous Hairy Hawkweed*. Stem more or less branched, solid, slightly leafy; root-leaves stalked, between egg-shaped and lance-shaped, glaucous, fringed, slightly toothed.—

Stems about a foot high, round, smooth: flower-stalks bristly and downy: flowers three or four, bright-yellow. Perennial: flowers in July: grows on rocks: not common. *Eng. Bot.* vol. xxix. pl. 2083. *Eng. Fl.* vol. iii. p. 362. 1127.

\*\*\*\* Stem with many leaves, many-flowered.

7. *H. sylvaticum*. Wood Hawkweed. Stem racemose, many-leaved, solid; leaves between egg-shaped and lance-shaped, toothed, chiefly at the base, the teeth directed forwards.—Stem twelve or eighteen inches high, erect, striated, paniced above: root-leaves on long hairy stalks, upper stem-leaves nearly sessile: flower-stalks and calyx rough, with short black hairs: flowers bright-yellow. Perennial: flowers in June and July: grows in woods, and on dry banks and old walls: common. *Eng. Bot.* vol. xxix. pl. 2031. 1128.

8. *H. maculatum*. Spotted Hawkweed. Stem cymose, many-leaved, hollow; leaves between egg-shaped and lance-shaped, strongly toothed, the teeth directed forwards.—Stem from one to three feet high, hairy: leaves more or less speckled with dark-purple, pale beneath: flower-stalks and calyx covered with whitish cottony or mealy down, mixed with black glandular hairs: flowers bright-yellow. Perennial: flowers from June to September: grows on the mountains of Scotland, Westmoreland, and Wales: common. *Eng. Bot.* vol. xxx. pl. 2121. *Eng. Fl.* vol. iii. p. 360. 1129.

9. *H. paludosum*. Succory-leaved Hawkweed. Stem corymbose, angular, hollow, leafy, smooth; leaves smooth, toothed, embracing the stem with their heart-shaped base; calyx hairy.—Stem erect, smooth, from one to two feet high: flower-stalks smooth: calyx covered with greenish-brown hairs: flowers bright-yellow. Perennial: flowers in July: grows by the sides of rivers and in marshy places: frequent. *Eng. Bot.* vol. xvi. pl. 1094. *Eng. Fl.* vol. iii. p. 232. 1130.

10. *H. mollis*. Soft-leaved Hawkweed. Stem corymbose, angular, hollow, leafy, downy; leaves lance-shaped, slightly-toothed, hairy, clasping the stem; the lower ones stalked, very obtuse.—Stem twelve or eighteen inches high, erect, hairy: flowers golden-yellow. Perennial: flowers in July and August: grows in woods in Scotland: rare. *Eng. Bot.* vol. xxxi. pl. 2210. *Eng. Fl.* vol. iii. p. 364. 1131.

11. *H. cerinthoides*. Honey-wort-leaved Hawkweed. Stem corymbose, hairy, somewhat angular, leafy, solid; leaves hairy, slightly toothed, the upper egg-shaped, embracing the stem, the lower between oblong and inversely egg-shaped, with fringed stalks.—Stem nearly two feet high, erect, angular, smooth: flower-stalks covered with glandular bristles: calyx hairy: flowers bright-yellow. Perennial: flowers in August: grows on rocks in the Highlands of Scotland, according to Mr. G. Don. *Eng. Bot.* vol. xxxiv. pl. 2378. *Eng. Fl.* vol. iii. p. 365. 1132.

12. *H. amplexicaule*. Amplexicaul Hawkweed. Stem corymbose; leaves toothed, lower ones oblong, egg-shaped, stalked, upper heart-shaped at the base, and clasping the stem.—Stems about a foot high, clothed with dense hairs: flowers numerous, yellow. Perennial: flowers in August: grows on old walls, but is not indigenous: rare. Clish Castle, Kinross. Oxford. *Eng. Bot. Suppl.* pl. 2690. *Brit. Fl.* 4th ed. p. 295. 1133.

13. *H. subaureum*. Shrubby Broad-leaved Hawkweed. Stem pani-

eled, many-flowered, with numerous broadly lance-shaped, acutely-toothed, rough-edged, somewhat embracing leaves, hairy beneath.—Stems two or three feet high, erect, furrowed: flowers numerous, golden-yellow. Perennial: flowers in August and September: grows in woods and thickets: frequent. *Eng. Bot.* vol. v. pl. 349. *Eng. Fl.* vol. iii. p. 367. 1134.

14. *H. prenanthoides*. *Rough-bordered Hawkweed*. Stem erect, solid, leafy, many-flowered, corymbose; leaves somewhat toothed, embracing the stem, rough near the edge, glaucous beneath, the upper ones heart-shaped.—Stem from two to three feet high: flowers bright-yellow, in a corymbose panicle: their stalks and calyx rough with glandular hairs. Perennial: flowers in August: grows in woods and thickets in Scotland: rare. *Eng. Bot.* vol. xxxii. pl. 2235. *Eng. Fl.* vol. iii. p. 388. 1135.

15. *H. denticulatum*. *Small-toothed Hawkweed*. Stem erect, solid, leafy, many-flowered, cymose; leaves sessile, lance-shaped, inclining to elliptical, minutely toothed, smoothish, glaucous beneath.—Stem about three feet high: flowers bright-yellow, in a cymose panicle: stalks and calyx downy and glandular. Perennial: flowers in August and September: grows in woods in Scotland: frequent. *Eng. Bot.* vol. xxx. pl. 2122. *Eng. Fl.* vol. iii. p. 368. 1136.

16. *H. umbellatum*. *Narrow-leaved Hawkweed*. Stem erect, nearly solid, leafy, imperfectly umbellate; leaves numerous, scattered, between linear and lance-shaped, slightly toothed, nearly smooth: flower-stalks downy; calyx smooth.—Stem two or three feet high, slightly hairy: flowers bright-yellow. Perennial: flowers in August and September: grows in woods and rocky places: not common. *Eng. Bot.* vol. xxv. pl. 1171. *Eng. Fl.* vol. iii. p. 233. 1137.

#### 9. CREPIS. HAWK'S-BEARD.

Common calyx double; the outer very short, loose, swelled, deciduous; the inner egg-shaped, simple, furrowed, permanent, of several linear, parallel scales. Compound corolla of numerous, imbricated, uniform, perfect, strap-shaped, abrupt, five-toothed florets. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen nearly egg-shaped. Style thread-shaped, as long as the stamens; stigmas two, reflected. Seeds oblong; seed-down hair-like, stalked or sessile. Receptacle slightly scaly.—Name from *crepis*, a slipper. 374.

1. *C. foetida*. *Stinking Hawk's-beard*. Leaves hairy, pinnatifid; their stalks toothed; stem hairy; calyx downy.—Stems a foot high, spreading, the central one erect: flowers several, solitary, pale-yellow. The leaves smell like bitter almonds. Biennial: flowers in June and July: grows in dry ground in England: rare. *Eng. Bot.* vol. vi. pl. 406. *Eng. Fl.* vol. iii. p. 370. 1138.

2. *C. pulchra*. *Small-flowered Hawk's-beard*. Leaves downy, toothed; those from the root inversely egg-shaped, the rest somewhat arrow-shaped, clasping; panicle corymbose, spreading; calyx smooth.—Stem from one to two feet high, erect, furrowed: flowers erect, smooth, yellow. Annual: flowers from June to September: grows among debris of rocks: found by Mr. G. Don, on the hill of Turin, near Forfar. *Eng. Bot.* vol. xxxiii. pl. 2325. *Eng. Fl.* vol. iii. p. 371. 1139.

3. *C. virans*. *Smooth Hawk's-beard*. Root-leaves runcinate; stem-leaves lance-shaped, toothed, embracing; stem smooth; calyx rough; seed-down sessile.—Stem from one to two feet high: leaves smooth; panicle slender, corymbose: flowers small, bright-yellow. Annual: flowers from June to October: grows in dry pastures and waste ground, on walls and roofs: common. *Eng. Bot.* vol. xvi. pl. 1111. *C. tectorum*. *Eng. Fl.* vol. iii. p. 372. 1140.

1. *C. hibernica*. *Rough Hawk's-beard*. Lower leaves runcinate; stem-leaves pinnatifid, clasping; all rough with bristly hairs; calyx somewhat bristly.—Stem three or four feet high, erect, corymbose: flowers pale-yellow. Biennial: flowers in June and July: grows in dry pastures in the south of England: frequent. *Eng. Bot.* vol. iii. pl. 149. *Eng. Fl.* vol. iii. p. 373. 1141.

#### 10. HYPOCHERIS. CAT'S-EAR.

Common calyx egg-shaped, imbricated, with lance-shaped, acute scales, the outer gradually smaller, all permanent. Compound corolla of numerous imbricated, uniform, perfect, strap-shaped, abrupt, five-toothed florets. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen inversely egg-shaped. Style thread-shaped, longer than the anthers; stigmas recurved. Seed oblong, acute, furrowed, rough; seed-down feathery, stalked. Receptacle chaffy, with slender, acute scales, as long as the seeds.—Name from *hypo*, for, and *choiros*, a hog. 375.

1. *H. maculata*. *Spotted Cat's-ear*. Stem nearly leafless, commonly simple, leaves oblong, inclining to egg-shaped, undivided, toothed.—Stem generally leafless, sometimes with one or two lance-shaped leaves: root-leaves rough, blotched with brown: flowers, large, yellow. Perennial: flowers in July: grows in dry pastures and woods: rare. *Eng. Bot.* vol. iv. pl. 225. *Eng. Fl.* vol. iii. p. 374. 1142.

2. *H. glabra*. *Smooth Cat's-ear*. Stems branched, somewhat leafy, smooth; leaves toothed or sinuated, smooth.—Stems a foot or more high: leaves oblong, hairy: flowers small, bright-yellow: down of the central florets only stalked. Annual: flowers from June to September: grows in gravelly pastures: not common. *Eng. Bot.* vol. viii. pl. 575. *Eng. Fl.* vol. iii. p. 375. 1143.

3. *H. radicata*. *Long-rooted Cat's-ear*. Stems branched, leafless, smooth; leaves runcinate, obtuse, rough; flower-stalks scaly; down of all the seeds stalked.—Root long and tapering: stems about a foot high, spreading with a small scale under each branch, and a number of awl-shaped bracteas on the hollow, enlarged flower-stalks: flowers large, bright-yellow. Perennial: flowers in July and August: grows in pastures and waste ground: common. *Eng. Bot.* vol. xii. pl. 831. *Eng. Fl.* vol. iii. p. 376. 1144.

#### 11. LAPSA'NA. NIPPLE-WORT.

Common calyx double, egg-shaped; the outer of a few small egg-shaped, or linear, scattered, close scales; the inner of about eight linear, channelled, keeled, acute, nearly equal scales. Compound corolla of about sixteen imbricated, uniform, perfect, strap-shaped, abrupt, five-toothed florets. Filaments

hair-like, very short; anthers united in a cylindrical tube. Germen inversely egg-shaped, small. Style thread-shaped, as long as the stamens; stigmas spreading. Seed oblong, angular, furrowed, smooth. Seed-down none. Receptacle naked, flat, narrow.—Name from *lapazo*, to purge. 376.

1. *L. comminis*. *Common Nipple-wort*. Calyx of the fruit angular; stem paniced; flower stalks thread-like; leaves egg-shaped, stalked, angularly toothed.—Stem from one to three feet high, much branched: leaves generally approaching to lyrate, with the terminal lobe very large, downy: flowers small, yellow. Annual: flowers in July and August: grows in waste places and cultivated ground: common. *Eng. Bot.* vol. xii. pl. 811. *Eng. Fl.* vol. iii. p. 377. 1145.

2. *L. pusilla*. *Dwarf Nipple-wort*. Scape branched, swelled and hollow at the top; leaves inversely egg-shaped, smooth, rough-edged. Stalks six or eight inches high: flowers small, bright-yellow. Annual: flowers in June: grows in gravelly fields: not common. *Eng. Bot.* vol. ii. pl. 95. *Eng. Fl.* vol. iii. p. 377. 1146.

## 12. CICHORIUM. SUCORY.

Common calyx double, cylindrical; the outer of a few oblong, shortish scales; the inner of about eight linear, equal, permanent scales. Compound corolla of about twenty strap-shaped, abrupt, deeply five-toothed, perfect florets. Filaments hair-like, very short; anthers united into a five-cornered tube. Germen egg-shaped. Style thread-shaped, as long as the stamens; stigmas revolute. Seed obscurely five-sided, abrupt; seed-down of several chaffy, erect bristles, shorter than the seed. Receptacle somewhat chaffy.—Name, Arabic, *chikourgeh*. 377.

1. *C. Intybus*. *Wild Succory*. Flowers in pairs, sessile; leaves runcinate. Stem two or three feet high, round, rough, branched: flowers large, light-blue, axillar: the roots are eatable, and have also been used as a substitute for coffee. Perennial: flowers in July and August: grows in borders of fields and by roads: frequent. *Eng. Bot.* vol. viii. pl. 539. *Eng. Fl.* vol. iii. p. 379. 1147.

## 13. ARCTIUM. BURDOCK.

Common calyx globular, imbricated, of numerous lance-shaped scales, ending in awl-shaped, hooked, thorny points, permanent. Compound corolla of numerous, perfect, equal florets, with a very long slender tube, and a wider egg-shaped limb, divided into five linear, regular, spreading segments. Filaments hair-like, very short; anthers forming a cylindrical, five-toothed tube, as long as the corolla. Germen oblong, downy at the summit. Style thread-shaped, longer than the stamens; stigmas reflected. Seed inversely pyramidal, with four unequal obtuse angles; seed-down simple, rough, shorter than the seed. Receptacle flat, covered with linear, chaffy scales, nearly as long as the calyx.—Name from *arctos*, a bear. 378.

1. *A. Lappa*. *Burdock*. *Clot-bur*. Leaves heart-shaped, stalked.

—Stem about three feet high, branched, furrowed: leaves hoary beneath: flowers axillar, purple. Biennial: flowers in July and August: grows in pastures and waste ground: common. The calyx is at first more or less covered with a substance resembling cobwebs, which afterwards, especially in rainy weather, disappears. When it is smooth, the plant has been named *A. Lappa*; when downy, *A. Bardana*. *Eng. Bot.* vol. xviii. pl. 1228, and vol. xxxv. pl. 2478. *Eng. Fl.* vol. iii. p. 380, 381. 1148.

## 14. SERRATULA. SAW-WORT.

Common calyx oblong, nearly cylindrical, imbricated, of numerous lance-shaped scales, permanent. Compound corolla uniform, of numerous, perfect, equal, funnel-shaped florets, their limb divided into five equal segments. Filaments hair-like, very short; anthers united into a cylindrical tube, as long as the corolla. Germen inversely egg-shaped. Style thread-shaped, as long as the stamens; stigmas oblong, reflected. Seed inversely egg-shaped, somewhat angular; seed-down sessile, rough or feathery, permanent. Receptacle chaffy, or hairy, flat.—Name from *serra*, a saw. 379.

1. *S. tinctoria*. Common Saw-wort. Leaves pinnatifid, somewhat lyre-shaped, with bristly serratures; seed-down roughish.—Stem two or three feet high, erect, stiff, branched at the top: flowers purple. Is used for dyeing cloth yellow. Perennial: flowers in July and August: grows in woods, thickets, and pastures: frequent. *Eng. Bot.* vol. i. pl. 38. *Eng. Fl.* vol. iii. p. 382. 1149.

2. *S. alpina*. Alpine Saw-wort. Leaves undivided, broadly lance-shaped, toothed, cottony beneath; calyx hairy; seed-down feathery.—Stems nearly a foot high, erect, unbranched, woolly: flowers purple, large. Perennial: flowers in July and August: grows on the sides of mountains in Scotland and Wales: frequent. *Eng. Bot.* vol. ix. pl. 599. *Eng. Fl.* vol. iii. p. 383. 1150.

## 15. CARDUUS. THISTLE.

Common calyx swelled, imbricated, of numerous, lance-shaped, thorn-pointed scales, permanent. Compound corolla uniform, of very numerous, perfect, equal, tubular florets, with a slender recurved tube, the limb egg-shaped at the base, with five linear segments, one of which is a little distant from the rest. Filaments hair-like, very short; anthers united into a five-toothed cylindrical tube, about the same length as the corolla. Germen inversely heart-shaped. Style thread-shaped, longer than the corolla; stigma undivided or cleft, oblong. Seed inversely egg-shaped, unequally four-cornered, with a slender cylindrical point; seed-down sessile, hair-like, rough, very long. Receptacle flat, hairy.—Name used by the Romans. 380.

\* *Leaves decurrent.*

1. *C. nitans*. Musk Thistle. Leaves interruptedly decurrent; flowers solitary, drooping; scales of the calyx lance-shaped, cottony, their upper part spreading.—Stem two or three feet high,

erect, branched: flower-stalks terminal, downy: flowers drooping, large, purple, emitting a musky odour. Annual: flowers in July and August: grows in dry pastures, waste grounds, and by roads: frequent. *Eng. Bot.* vol. xvi. pl. 1112. *Eng. Fl.* vol. iii. p. 384. 1151.

2. *C. acanthoides*. *Wetted Thistle*. Leaves decurrent, sinuated, very thorny; flowers several together, shortly stalked; calyx globular, with linear, partly recurved scales.—Stem about three feet high, much branched: flowers purplish-crimson. Annual: flowers in June and July: grows in waste ground, and by roads and hedges: frequent. *Eng. Bot.* vol. xiv. pl. 973. *Eng. Fl.* vol. iii. p. 385. 1152.

3. *C. tenuiflorus*. *Slender-flowered Thistle*. Leaves decurrent, sinuated, thorny; flowers several together, sessile; calyx somewhat cylindrical, its scales lance-shaped, a little recurved at the point.—Stem from two to four feet high, erect: leaves cottony beneath: flowers numerous, pale-purplish. Annual: flowers in July and August: grows in waste places, about towns: very abundant about Edinburgh. *Eng. Bot.* vol. vi. pl. 412. *Eng. Fl.* vol. iii. p. 385. 1153.

\*\* *Leaves not decurrent.*

4. *C. Mariānus*. *Milk Thistle*. Leaves waved, thorny, embracing the stem, the root-leaves pinnatifid; scales of the calyx resembling leaves, recurved, channelled, thorny at the edges.—Stem four or five feet high, branched: leaves dark-green, their veins bordered with white: flowers large, solitary, purple. Annual: flowers in June and July: grows in waste ground about towns. *Eng. Bot.* vol. xiv. pl. 976. *Eng. Fl.* vol. iii. p. 386. 1154.

#### 16. CNICUS. THISTLE.

Common calyx swelled, imbricated, of numerous, lance-shaped, thorn-pointed scales, permanent. Compound corolla nearly uniform, equal, tubular, funnel-shaped florets, with a slender, recurved tube, the limb egg-shaped at the base, with five linear segments. Filaments hair-like, very short; anthers united into a five-toothed cylindrical tube, nearly as long as the corolla. Stigma undivided, or cleft, oblong; seed inversely egg-shaped, with a slender, cylindrical point; seed-down sessile, feathery, very long. Receptacle flat, covered with bristles as long as the tubes of the florets.—Name from *cnizo*, to prick. 381.

\* *Leaves decurrent.*

5. *C. lanceolatus*. *Spear Thistle*. Leaves decurrent, bristly, pinnatifid, their segments generally three-lobed, spreading in different directions, thorny; calyx egg-shaped, woolly, with lance-shaped, thorn-pointed scales, spreading above.—Stem branched, stout, from one to three feet high: leaves woolly beneath, with a very long and very sharp point: flowers large, purple, single or in pairs. Biennial: flowers in July and August: grows by road-sides, and in waste places, dry pastures, and neglected fields: frequent. *Eng. Bot.* vol. ii. pl. 107: *Carduus lanceolatus*. *Eng. Fl.* vol. iii. p. 388. 1155.

6. *C. palustris*. *Marsh Thistle*. Leaves decurrent, bristly, pinnatifid, thorny; calyx egg-shaped, with broadly lance-shaped, minutely thorn-pointed, closely-pressed scales; flowers several together.—Stem from three to five feet high, erect, rather slender, covered with

short weak thorns: leaves woolly beneath: scales of the calyx purple, keeled near the end with a soft shining substance: flowers purple. Biennial: flowers in July: grows in moist meadows, by ditches and pools: frequent. *Eng. Bot.* vol. xiv. pl. 974: *Carduus palustris*. *Eng. Fl.* vol. iii. p. 388. 1156.

\*\* *Leaves not decurrent.* •

7. *C. arvensis*. *Field Thistle*. Leaves sessile, pinnatifid, thorny; stem panicled; calyx egg-shaped, with closely-pressed, minutely thorn-pointed scales.—Stem from two to four feet high, round, smooth, angular: leaves bare beneath: flower-stalks cottony: flowers pale-purple. Perennial: flowers in July: grows in corn-fields, pastures, and waste places: common. *Eng. Bot.* vol. xiv. pl. 975. 1157.

8. *C. eriophorus*. *Woolly-headed Thistle*. Leaves pinnatifid, with thorny segments pointing two ways, bristly above; calyx globular, densely woolly, with minutely thorn-pointed scales.—Stem three feet high, furrowed, slightly hairy: flowers numerous, very large, purple. Biennial: flowers in August: grows by roads and in dry pastures: not common. *Eng. Bot.* vol. vi. pl. 386. *Eng. Fl.* vol. iii. p. 390. 1158.

9. *C. tuberosus*. *Tuberous Thistle*. Leaves deeply pinnatifid, lobed, fringed with prickles, the lower ones stalked; stem smooth, almost one-flowered; scales of the calyx minutely thorn-pointed, nearly smooth; root creeping, tuberous.—Stem two feet high, erect, straight, furrowed, hairy: flower erect, bright-purple. Perennial: flowers in August. Found by Mr. Lambert in a thicket on the Wiltshire downs. *Eng. Bot.* vol. xxxvi. pl. 2562. *Eng. Fl.* vol. iii. p. 391. 1159.

10. *C. heterophyllus*. *Melancholy Thistle*. Leaves embracing the stem, lance-shaped, fringed, undivided or pinnatifid, smooth on their upper side, densely cottony beneath; stem downy, almost one-flowered.—Stem three feet high, erect, hollow, cottony, bearing a single large purple flower. Perennial: flowers in July and August: grows in moist pastures in Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. x. pl. 675: *Carduus heterophyllus*. *Eng. Fl.* vol. iii. p. 392. 1160.

11. *C. pratensis*. *Meadow Thistle*. Leaves sessile, lance-shaped, waved, fringed with unequal thorns, cottony beneath; stem downy, one-flowered; calyx cottony, its scales lance-shaped.—Stem about a foot high, furrowed, bearing a single pale-purple flower. Perennial: flowers in June and July: grows in moist pastures: not common. *Eng. Bot.* vol. iii. pl. 177: *Carduus pratensis*. *Eng. Fl.* vol. iii. p. 393. 1161.

12. *C. acutis*. *Dwarf Thistle*. Scape one-flowered, shorter than the smooth calyx.—Leaves oblong, pinnatifid, spreading close to the ground: flower almost sessile, large, purple. Perennial: flowers in July: grows in dry pastures in England: common in some places. *Eng. Bot.* vol. iii. pl. 161. *Eng. Fl.* vol. iii. p. 394. 1162.

#### 17. ONOPORDUM. COTTON-THISTLE.

Common calyx roundish, tumid, imbricated, of numerous lance-shaped, thorn-pointed scales, permanent. Compound corolla uniform, with very numerous, equal, funnel-shaped corollas; their tube very slender; the limb deeply divided into five linear, equal segments. Filaments hair-like, very short;



anthers united into a five-toothed, cylindrical tube. Germen inversely egg-shaped, short. Style thread-shaped, longer than the stamens; stigma oblong, notched. Seed inversely egg-shaped, pointed, smooth; seed-down hair-like, sessile, rough, deciduous. Receptacle convex, fleshy, deeply cellular, somewhat chaffy.—Name from *onos*, an ass. 382.

1. *O. Acanthium*. *Common Cotton-thistle*. Scales of the calyx awl-shaped, spreading in every direction; leaves oblong, inclining to egg-shaped, sinuated, woolly on both sides.—Stem four or five feet high, branched, woolly: flowers large, purple. Biennial: flowers in July and August; grows in waste ground, and by roads and hedges: frequent. *Eng. Bot.* vol. xiv. pl. 977. *Eng. Fl.* vol. iii. p. 395. 1163.

#### 18. CARLINA. CARLINE-THISTLE.

Common calyx cylindrical, somewhat swelled, imbricated, of numerous, loose, acute, permanent scales, the innermost much longer, linear, coloured, spreading horizontally; the outer thorn-pointed. Compound corolla uniform, flat, with numerous, equal, funnel-shaped florets; their limb deeply divided into five erect segments. Filaments hair-like, very short; anthers united into a cylindrical tube, each with two deflected bristles at the base. Germen inversely egg-shaped. Style thread-shaped, as long as the anthers; stigma oblong. Seed conical, abrupt, roughish; seed-down partly chaffy, partly feathery, permanent. Receptacle flat, covered with linear, chaffy scales, many-cleft at the top.—Named after *Carolus Magnus*, Charlemagne. 383.

1. *C. vulgaris*. *Common Carline-thistle*. Stem corymbose, many-flowered; flowers terminal; outer scales of the calyx pinnatifid.—Stem about a foot high, erect, downy: leaves lance-shaped, sinuated, bordered with prickles: flowers red. The flowers, which expand in dry weather, and close before rain, retain this property after they are dried, and are used as hygrometers. Biennial: flowers in June: grows in dry sandy pastures and fields: frequent. *Eng. Bot.* vol. xvi. pl. 1144. *Eng. Fl.* vol. iii. p. 397. 1164.

#### 19. BIDENS. BUR-MARIGOLD.

Common calyx erect, of several oblong, nearly equal, parallel scales, concave or channelled on the back. Compound corolla level at the top, of several parallel, perfect, tubular, equal florets; their limb egg-shaped, with five marginal, spreading segments. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen oblong, compressed, with bristly erect points on its outside. Style thread-shaped, as long as the stamens; stigmas oblong, reflected. Seed angular, abrupt, beaked with two or more bristles, which are rough with deflected prickles. Receptacle flat, covered with erect, chaffy, oblong, deciduous scales.—Name from *bis*, double, and *dens*, a tooth. 384.

1. *B. cernua*. *Nodding Bur-marigold*. Leaves lance-shaped, serrate; flowers drooping; bracteas lance-shaped, nearly equal; bristles

of the seed about four, erect.—Stem erect, two or three feet high: flowers large, yellow. Annual: flowers in September: grows by the sides of ditches and ponds: frequent. *Eng. Bot.* vol. xvi. pl. 1114. *Eng. Fl.* vol. iii. p. 399. 1165.

2. *B. tripartita*. *Three-cleft Bur-marigold*. Leaves divided into three segments; bractees lance-shaped, unequal; bristles of the seeds two or three.—Stem two or three feet high: flowers brownish-yellow. Annual: flowers in August and September: grows about the sides of ditches and ponds: frequent. *Eng. Bot.* vol. xvi. pl. 1113. *Eng. Fl.* vol. iii. p. 398. 1166.

## 20. EUPATORIUM. HEMP AGRIMONY.

Common calyx oblong, imbricated, with lance-shaped, unequal, erect, thornless scales. Compound corolla uniform, level, of a few perfect, regular, funnel-shaped florets. Filaments hair-like, very short; anthers united, with a cylindrical tube, as long as the corolla. Germen small, oblong, angular. Style thread-shaped, very long, cleft as far down as the anthers; stigmas oblong, downy, spreading. Seed oblong, angular; seed-down sessile, rough or feathery, permanent. Receptacle naked, small.—Named after *Eupator*, a king of Pontus. 385.

1. *E. cannabinum*. *Hemp Agrimony*. Leaves divided into three or five lance-shaped segments, the middle one longest.—Stems two or three feet high, erect, branched, downy: flowers reddish-purple, in terminal tufts. Perennial: flowers in July and August: grows about the banks of rivers and lakes: not common. *Eng. Bot.* vol. vi. pl. 428. *Eng. Fl.* vol. iii. p. 400. 1167.

## 21. CHRYSOCOMA. GOLDLOCKS.

Common calyx hemispherical, imbricated, of numerous narrow, lance-shaped, pointed, thornless scales. Compound corolla uniform, of several tubular, perfect, regular florets. Filaments hair-like, very short; anthers united into a cylindrical, five-pointed tube, shorter than the corolla. Germen oblong. Style thread-shaped, as long as the corolla; stigmas oblong, spreading. Seed inversely egg-shaped, compressed; seed-down sessile, rough, permanent. Receptacle flat, slightly cellular, naked.—Name from *chrysos*, gold, and *come*, the hair. 386.

1. *Ch. Linosyris*. *Flax-leaved Goldlocks*. Herbaceous; leaves linear, smooth; scales of the calyx spreading.—Stems a foot high, erect, stiff, unbranched: flowers bright-yellow, in a corymbose terminal tuft. Perennial: flowers in August and September: grows on rocks by the sea in several places in the south-west of England. *Eng. Bot.* vol. xxxv. pl. 2505. *Eng. Fl.* vol. iii. p. 402. 1168.

## 22. DIO'TIS. COTTON-WEED.

Common calyx hemispherical, imbricated, with oblong, obtuse scales. Compound corolla uniform, level, of numerous, perfect, regular florets, about the length of the calyx; their limb with five broadish, spreading segments; the tube contracted at the top, elongated at the base into two honey-bearing

spurs, finally separating and remaining attached to the germen. Filaments hair-like, very short; anthers united into a cylindrical tube, as long as the corolla. Germen oblong, slender. Style thread-shaped, as long as the stamens; stigmas obtuse, spreading. Seed oblong, compressed, bordered at each side with the spurs of the corolla; seed-down none. Receptacle convex, covered with oblong, hair-tipped scales.—Name from *dis*, two, and *ous*, an ear, in allusion to the seed. 387.

1. *D. maritima*. *Sea Cotton-weed*.—The whole plant white and cottony: stems about a foot high, branched: leaves lance-shaped, obtuse, crenate: flowers yellow. Perennial: flowers in August and September: grows in sand, on the sea-coast of the south of England: not common. *Eng. Bot.* vol. ii. pl. 141. *Eng. Fl.* vol. iii. p. 403. 1169.

## POLYGAMIA SUPERFLUA.

### 23. TENACETUM. TANSY.

Common calyx hemispherical, imbricated, of numerous oblong, close scales, the innermost membranous at the edges. Compound corolla of two kinds of florets; those of the disk numerous, perfect, tubular, regular, with a five-cleft limb; those of the ray few, without stamens, tubular at the base, with a flat three-cleft limb. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen inversely egg-shaped, compressed. Style thread-shaped, as long as the stamens; stigmas obtuse, recurved. Seed oblong, angular, crowned with a slight membranous border. Receptacle convex, dotted, naked.—Name altered from *athanasia*, undying. 388.

1. *T. vulgäre*. *Common Tansy*. Leaves pinnatifid, deeply serrate. —Stems two or three feet high, terminating in a corymb of yellow flowers. The seeds are said to expel intestinal worms. Perennial: flowers in July and August: grows in the borders of fields, and by roads: common. *Eng. Bot.* vol. xviii. pl. 1229. *Eng. Fl.* vol. iii. p. 405. 1170.

### 24. ARTEMISIA. WORMWOOD.

Common calyx roundish, imbricated, of rounded, close scales, membranous at the edges. Compound corolla of two kinds of florets: those of the disc numerous, perfect, tubular, their limb with five segments; those of the ray few, destitute of stamens, generally without a petal, or awl-shaped, entire. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen small, egg-shaped. Style thread-shaped, as long as the stamens; stigmas involute. Seed inversely egg-shaped; seed-down none. Receptacle nearly flat, naked or hairy.—Named after *Artemis*, or *Diana*. 389.

1. *A. campestris*. *Field Southernwood*. Leaves divided into many linear segments; stems at first prostrate, after flowering erect. —Nearly two feet high: leaves smooth on the upper side, downy

beneath : flowers drooping, small, yellow, in slender, terminal, leafy clusters. Perennial : flowers in August : grows on sandy heaths, in Norfolk and Suffolk. *Eng. Bot.* vol. v. pl. 338. *Eng. Fl.* vol. iii. p. 406. 1171.

2. *A. maritima*. *Drooping-flowered Sea-wormwood*. Leaves pinnatifid, the uppermost undivided, downy ; clusters drooping ; flowers drooping, oblong, downy ; receptacle naked.—Stems woody, furrowed, hoary : flowers yellow, in leafy clusters. Perennial : flowers in August : grows on the sea-shore. *Eng. Fl.* vol. iii. p. 407. A variety, with the clusters of flowers erect, is the *A. Gallica*, *Upright Flowered Sea-wormwood*. *Eng. Bot.* vol. xiv. pl. 1001. *Eng. Fl.* vol. iii. p. 408. 1172.

3. *A. Absinthium*. *Common Wormwood*. Leaves divided into many deep flat segments, downy ; flowers drooping, hemispherical ; receptacle hairy.—Stems about a foot high, bushy, furrowed : leaves twice pinnatifid : flowers pale-yellow, in leafy clusters. The whole plant is intensely bitter, aromatic, and somewhat nauseous. Infusion of the leaves is considered a good stomachic, and the essential oil is used for destroying worms. Perennial : flowers in August : grows in waste ground, near houses : frequent. *Eng. Bot.* vol. xviii. pl. 1230. *Eng. Fl.* vol. iii. p. 408. 1173.

4. *A. vulgaris*. *Mugwort*. Leaves pinnatifid, flat, cut, downy beneath : clusters simple ; flowers egg-shaped ; receptacle naked.—Stems from two to four feet high, erect, branched, panicled, smooth : leaves dark-green above, white and downy beneath : clusters erect, leafy : flowers purplish. Slightly bitter and aromatic. Perennial : flowers in July and August : grows about hedges and walls : common. *Eng. Bot.* vol. xiv. pl. 978. *Eng. Fl.* vol. iii. p. 409. 1174.

## 25. GNAPHALIUM. CUDWEED.

Common calyx roundish, imbricated, with membranous, coloured scales. Compound corolla with the florets of the disk perfect, tubular, five-cleft at the margin ; some florets destitute of stamens, and often of corolla, either marginal or interspersed in the circumference of the disk ; their corolla, when present, slender. Filaments five, hair-like, short ; anthers united into a cylindrical tube. Germen inversely egg-shaped, angular. Style thread-shaped, as long as the floret ; stigmas two, spreading, notched. Seed inversely egg-shaped, small. Down simple or feathery. Receptacle naked.—Name from *gnaphalon*, soft down. 390.

\* *Calyx yellow.*

1. *G. luteo-dibum*. *Jersey Cudweed*. Leaves half embracing the stem, between linear and oblong, waved, woolly on both sides ; flowers in tufts.—Entirely covered with white cottony down : stems from three to twelve inches high : leaves alternate, the lower obtuse, the upper acute : flowers in crowded heads. Annual : flowers in July and August : grows in Jersey and the south of England : rare. *Eng. Bot.* vol. xiv. pl. 1002. *Eng. Fl.* vol. iii. p. 411. 1175.

\*\* *Calyx white, or reddish.*

2. *G. margaritaceum*. *American Cudweed*. Leaves between linear and lance-shaped, acutely pointed, alternate, loosely cottony above, densely beneath ; stem branched at the upper part ; flowers corym-

bosc.—Stems two feet high, erect, cottony: flowers numerous, with white calyxes. Perennial: flowers in August: grows in moist meadows in the south of England and Wales, but is not indigenous. *Eng. Bot.* vol. xxix. pl. 2018. *Eng. Fl.* vol. iii. p. 412. 1176.

3. *G. dioicum*. *Mountain Cudweed*. Shoots procumbent; stem simple; corymb simple; flowers diœcious.—Stems solitary, from four to six inches high, cottony: leaves scattered, greenish above, white beneath, lance-shaped: flowers white or rose-coloured. Perennial: flowers in June and July: grows on dry heaths and in rocky places: common in mountainous districts. *Eng. Bot.* vol. iv. pl. 267. *Eng. Fl.* vol. iii. p. 413. 1177.

\*\*\* Calyx brown.

4. *G. sylvaticum*. *Highland Cudweed*. Stem simple, erect; spike leafy, nearly erect; leaves lance-shaped, tapering at the base, cottony on both sides.—Stem from three to twelve inches high, cottony, terminating in a dense leafy spike with yellowish flowers. Perennial: flowers in August: grows in dry pastures in the Highlands of Scotland. *Eng. Bot.* vol. xiii. pl. 913. *Eng. Fl.* vol. iii. p. 414. A variety, named *G. rectum*, *Upright Wood Cudweed*, has a longer spike, and leaves bare on the upper side. *Eng. Bot.* vol. ii. pl. 124. *Eng. Fl.* vol. iii. p. 415. 1178.

5. *G. supinum*. *Dwarf Alpine Cudweed*. Stem simple, recumbent, terminating in a simple few-flowered cluster; leaves lance-shaped, inclining to linear, downy on both sides.—Stems from two to four inches long, slender, cottony, with a cluster of from three to six yellowish flowers. Perennial: flowers in July: grows abundantly towards the summits of the higher mountains of the Highlands of Scotland, chiefly along rivulets. *Eng. Bot.* vol. xvii. pl. 1193. *Eng. Fl.* vol. iii. p. 415. 1179.

6. *G. uliginosum*. *Marsh Cudweed*. Stem much branched, spreading; leaves between lance-shaped and linear, cottony on both sides; flowers in dense terminal clusters, which are shorter than the leaves.—Stems from five to eight inches high, densely cottony: flowers yellow. Annual: flowers in August: grows in watery places, especially where water has stood during the winter: common. *Eng. Bot.* vol. xvii. pl. 1194. *Eng. Fl.* vol. iii. p. 416. 1180.

7. *G. Gallicum*. *Narrow-leaved Cudweed*. Stem erect, forked; leaves linear, revolute, acute, downy; flowers oblong, crowded in very short axillar clusters.—Stems about eight inches high, leafy, cottony; flowers yellow, with few florets. Annual: flowers in July and August: grows in corn-fields: rare. *Eng. Bot.* vol. xxxiii. pl. 2369. *Eng. Fl.* vol. iii. p. 417. 1181.

8. *G. minimum*. *Least Cudweed*. Stem erect, much branched; leaves lance-shaped, acute; flowers conical, in dense, lateral, and terminal tufts.—Stems from three to six inches high, cottony: flowers yellow. Annual: flowers in July: grows in sandy meadows and pastures: common. *Eng. Bot.* vol. xvii. pl. 1157. *Eng. Fl.* vol. iii. p. 418. 1182.

9. *G. Germinicum*. *Common Cudweed*. Stem erect, forked; leaves lance-shaped; heads of flowers globular, lateral and terminal; scales of the calyx bristle-pointed.—Stem about a foot high, terminated by a head of flowers, from beneath which two or three branches come off, terminated each by a head of flowers, and subdividing in

the same manner. Annual: flowers in July and August: grows in dry pastures, gravel pits, and waste grounds: common. *Eng. Bot.* vol. xiv. pl. 946. *Eng. Fl.* vol. iii. p. 418. 1183.

## 26. CONY'ZA. CONYZA.

Common calyx imbricated, egg-shaped\* or roundish, with acute, stiff scales, covered with prominent points. Compound corolla; florets tubular; those of the disk numerous, funnel-shaped, with few equal segments, perfect and fertile; those of the circumference cylindrical, with an oblique, strap-shaped, three-cleft limb, and having only a pistil. Filaments five, hair-like, very short; anthers united into a cylindrical tube. Germen oblong. Style thread-shaped, as long as the corolla; stigmas two, spreading. Seed oblong, uniform in all the florets; seed-down simple, sessile. Receptacle slightly convex, naked.—Name from *conops*, a gnat. 391.

1. *C. squarrosa*. *Plowman's Spikenard*. Leaves between lance-shaped and egg-shaped, crenate, downy; stem herbaceous, corymbose; scales of the calyx recurved.—Soft and downy: stem erect, two or three feet high: flowers dull-yellow. Biennial: flowers in July: grows in mountainous meadows and pastures: frequent in England. *Eng. Bot.* vol. xvii. pl. 1195. *Eng. Fl.* vol. iii. p. 420. 1184.

## 27. ERI'GERON. FLEA-BANE.

Common calyx imbricated, egg-shaped; scales linear, erect, the innermost longest. Compound corolla rayed; florets of the disk numerous, perfect, funnel-shaped, their limb with five equal segments; those of the ray numerous, tubular at the base, with a strap-shaped, tapering, nearly erect limb, entire or slightly toothed. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen inversely egg-shaped, angular. Style thread-shaped; stigmas two, oblong, slightly spreading. Seed small, inversely egg-shaped; seed-down sessile, simple, rough. Receptacle flat, naked.—Name from *eri*, early, and *geron*, an old man. 392.

1. *E. Canadensis*. *Canadian Flea-bane*. Stem panicled, rough with hairs, leaves lance-shaped, rough-edged, the lower toothed.—Stem erect, angular, two feet high, with very numerous yellowish flowers. Annual: flowers in August and September: grows in cultivated ground, and among rubbish, in England, but is not indigenous. *Eng. Bot.* vol. xxix. pl. 2019. *Eng. Fl.* vol. iii. p. 421. 1185.

2. *E. aceris*. *Blue Flea-bane*. Flower-stalks alternate, mostly one-flowered; leaves lance-shaped, obtuse, sessile; seed-down nearly as long as the florets of the ray.—Stem from one to two feet high, erect, branched, downy: flowers yellow. Biennial: flowers in July and August: grows in dry pastures: frequent. *Eng. Bot.* vol. xvii. pl. 1158. *Eng. Fl.* vol. iii. p. 422. 1186.

3. *E. alpinus*. *Alpine Flea-bane*. Stem commonly one-flowered; calyx hairy; seed-down half as long as the florets of the ray.—Stems from four to six inches high: leaves sessile, lance-shaped, entire, hairy: flower rather large, pale-purple. Perennial: flowers in

July : grows on rocks on the Highland mountains : found on Ben Lawers by Mr. Dickson. *Eng. Bot.* vol. vii. pl. 464. *Eng. Fl.* vol. iii. p. 423. 1187.

## 28. TUSSILA'GO. COLT'S-FOOT.

Common calyx simple, cylindrical, with from fifteen to twenty linear, erect, parallel, equal scales. Compound corolla rayed ; florets of the disk tubular, with five equal segments, furnished with stamens and pistils ; florets of the ray narrow, strap-shaped ; anthers united or converging. Germen inversely egg-shaped, short. Style thread-shaped ; stigmas two, protruded, linear. Seed oblong, compressed ; seed-down sessile, simple. Receptacle naked.—Name from *tussis*, cough, and *ago*, to expel. 393.

1. *T. Färfara*. *Colt's-foot*. Scape one-flowered, imbricated with scales ; leaves heart-shaped, angular, toothed, white and cottony beneath.—Stalk about ten inches high, with a large bright-yellow rayed flower : leaves glaucous above. The downy substance of the leaves, after being dipped in saltpetre, makes excellent tinder. The leaves are bitter and mucilaginous, and were formerly used for coughs and pulmonary complaints. Perennial : flowers in March and April : grows generally in clayey soil, by rivers and ditches : common. *Eng. Bot.* vol. vi. pl. 429. *Eng. Fl.* vol. iii. p. 425. 1188.

## 29. PETASITES. BUTTER-BUR.

Common calyx egg-shaped, imbricated, with two rows of lanceolate scales. Compound corolla with the florets all tubular, furnished with stamens and pistils, some of the central ones destitute of stamens ; anthers united. Germen inversely egg-shaped, short. Style thread-shaped ; stigmas two, protruded, oblong. Seed oblong, compressed, seldom perfected ; seed-down sessile, simple. Receptacle naked.—Name from *petasis*, a covering, on account of the great size of the leaves. 394.

1. *P. vulgaris*. *Butter-bur*. Panicle dense, between egg-shaped and oblong ; flowers without rays ; leaves heart-shaped, unequally toothed, with a lateral rib on each side at the base.—Stalk about eight inches high, of dense, pale-purple flowers : florets generally furnished with stamens and pistils, but rarely perfecting seeds. In a variety, known by the name of *T. hybrida*, the florets have pistils, but seldom stamens, and produce perfect seeds. Leaves two or even three feet in diameter, the largest of any British plant. Perennial : flowers in March and April : grows by rivers and brooks, in rich soil : common. *Eng. Bot.* vol. vi. pl. 430 and pl. 431. *Eng. Fl.* vol. iii. p. 426. 1189.

## 30. SENE'CIO. GROUNDSEL. RAGWORT.

Common calyx double ; the inner cylindrical, of numerous, equal, parallel, linear scales ; the outer of minute imbricated scales at the base of the others ; all withered-looking and generally black at the tip. Compound corolla, longer than the calyx ; florets of the disk numerous ; all perfect, tubular, with five equal segments ; those of the ray strap-shaped, slightly toothed, without stamens, and sometimes wanting. Filaments

hair-like, short; anthers united into a cylindrical tube. Germs inversely egg-shaped, small. Style thread-shaped, as long as the stamens; stigmas two, oblong, spreading. Seed inversely egg-shaped; seed-down simple, sessile. Receptacle naked, slightly convex.—Name from *senex*, an old man. 395.

\* *Florets all tubular.*

1. *S. vulgaris*. *Common Groundsel*. Flowers destitute of ray; leaves pinnatifid, toothed, half embracing the stem.—Stem about six inches high, branched, with numerous corymbose, yellow flowers. Annual: flowers from February to November: but individuals may be got in flower through the winter: grows in cultivated and waste ground: common. *Eng. Bot.* vol. xi. pl. 747. *Eng. Fl.* vol. iii. p. 428. 1190.

\*\* *Flowers rayed, the ray rolled back.*

2. *S. viscosus*. *Stinking Groundsel*. Rays revolute; leaves half embracing, pinnatifid, clammy; outer calyx loose, nearly as long as the inner; stem branched.—The whole plant clammy, generally covered with dust, with a disagreeable smell: stem about a foot high: flowers yellow. Annual: flowers from June to October: grows in waste ground, and among rubbish: not uncommon. *Eng. Bot.* vol. i. pl. 32. *Eng. Fl.* vol. iii. p. 429. 1191.

3. *S. sylvaticus*. *Mountain Groundsel*. Rays revolute; leaves sessile, pinnatifid, lobed, minutely toothed; scales of the calyx linear; stem erect, straight, branched, corymbose.—Stem from six inches to two feet high, or more. It emits a disagreeable odour. Annual: flowers in July and August: grows in dry barren pastures: common. *Eng. Bot.* vol. xi. pl. 784. *Eng. Fl.* vol. iii. p. 430. A variety, with the leaves distinctly eared and embracing the stem, is the *S. lividus*, *Green-scaled Groundsel*. *Eng. Bot.* vol. xxxv. pl. 2515. *Eng. Fl.* vol. iii. p. 430. 1192.

\*\*\* *Flowers with spreading rays; leaves pinnatifid.*

4. *S. tenuifolius*. *Hoary Ragwort*. Ray spreading, with oblong, minutely toothed corollas; leaves pinnatifid, paler and cottony beneath; stem erect, loosely cottony.—Stem two or three feet high, furrowed: leaves alternate, sessile: flowers yellow. Perennial: flowers in July and August: grows in woods, hedges, and by roads, in England: frequent. *Eng. Bot.* vol. viii. pl. 574. *Eng. Fl.* vol. iii. p. 432. 1193.

5. *S. Jacobaea*. *Common Ragwort*. Ray spreading, somewhat revolute, with oblong, toothed corollas; leaves lyrate, twice pinnatifid, divaricate, toothed, smooth; seeds hairy.—Stem about two feet high, purple at the base, branched: flowers golden yellow, very numerous, in corymbs, emitting a strong smell of honey. Perennial: flowers in July and August: grows in dry pastures, and by roads: common. *Eng. Bot.* vol. xvi. pl. 1130. *Eng. Fl.* vol. iii. p. 438. 1194.

6. *S. aquaticus*. *Marsh Ragwort*. Ray spreading; with elliptical, toothed corollas; leaves lyrate, serrate, smooth, the lower inversely egg-shaped, undivided; seeds smooth.—Stem about two feet high, purple: flowers larger and fewer than in the preceding species, scentless, in corymbs. Perennial: flowers in July and August: grows by the sides of rivers, and in wet pastures: common. *Eng. Bot.* vol. xvi. pl. 1131. *Eng. Fl.* vol. iii. p. 434. 1195.



\*\*\*\* *Flowers with rays; leaves undivided.*

7. *S. paludosus*. *Great Fen Ragwort*. *Bird's-tongue Groundsel*. Ray spreading, with oblong, toothed corollas; flowers corymbose; leaves lance-shaped, tapering, acutely serrate, somewhat cottony beneath; stem quite straight, hollow.—Stem from two to five feet high, simple: leaves very long, at first woolly: flowers yellow, not very numerous, but large: seeds hairy. Perennial: flowers in June and July: grows in ditches and fens in the east part of England: rare. *Eng. Bot.* vol. x. pl. 650. *Eng. Fl.* vol. iii. p. 434. 1196.

8. *S. Saracenicus*. *Broad-leaved Ragwort*. Ray spreading, the corolla broad, nearly entire; flowers corymbose; leaves lance-shaped, serrate, minutely downy; stem solid.—Stems from three to five feet high, erect: flowers yellow. Perennial: flowers in July and August: grows in moist meadows and pastures, in various parts of England, and the Lowlands of Scotland, but is probably not indigenous. *Eng. Bot.* vol. xxxi. pl. 2211. *Eng. Fl.* vol. iii. p. 435. 1197.

### 31. A'STER. STARWORT.

Common calyx oblong, imbricated; the inner scales standing out at the points, the lowermost spreading. Compound corolla rayed; florets of the disk numerous, perfect, tubular, with five equal, spreading segments; those of the ray more than ten. strap-shaped, oblong, three-toothed, finally revolute, without stamens. Filaments hair-like, short; anthers united into a cylindrical tube. Germen oblong. Style thread-shaped; stigmas two, oblong, spreading, those of the disk larger. Seed inversely egg-shaped. Down sessile, hair-like. Receptacle naked, almost flat.—Name, *aster*, a star. 396.

1. *A. Tripolium*. *Sea Starwort*. Stem herbaceous, corymbose; leaves lance-shaped, entire, fleshy, obscurely three-ribbed, scales of the calyx obtuse, membranous.—Stem two or three feet high, round, smooth: leaves smooth, the lower stalked, the upper sessile and more narrow: flowers large, purple, with a yellow disk. Perennial: flowers in August and September: grows in salt marshes: frequent. *Eng. Bot.* vol. ii. pl. 87. *Eng. Fl.* vol. iii. p. 437. 1198.

### 32. SOLIDA'GO. GOLDEN-ROD.

Common calyx oblong, imbricated, with oblong, pointed, straight scales. Compound corolla rayed; florets of the disk numerous, perfect, tubular, with five equal, spreading segments; those of the ray from five to ten strap-shaped, oblong, three-toothed, without stamens. Filaments hair-like, short; anthers united into a cylindrical tube. Germens oblong. Style thread-shaped; stigmas two, revolute. Seed somewhat inversely egg-shaped; seed-down sessile, hair-like. Receptacle nearly flat, naked.—Name from *solidor*, to unite, on account of its supposed healing power. 397.

1. *S. Virgaurea*. *Common Golden-rod*. Root-leaves elliptical, those of the stem lance-shaped; clusters paniced, erect, crowded.—Stem from six inches to three feet high, erect, generally zig-

zag, purple at the lower part, downy above, terminating in a leafy, generally compound cluster of small yellow flowers. Perennial: flowers in July and August: grows in woods, rocky places, by rivers, and upland pastures: common. *Eng. Bot.* vol. v. pl. 301. *Eng. Fl.* vol. iii. p. 438. 1199.

33. *INULA*. FLEA-BANE.

Common calyx hemispherical, imbricated, with the scales spreading at the points. Compound corolla rayed; florets of the disk very numerous, perfect, tubular, with five equal, erect or spreading segments; those of the ray numerous, strap-shaped, linear, three-toothed, without stamens. Filaments thread-shaped, short; anthers united into a cylindrical tube, with five acute teeth above, and ten straight bristles at the base. Germens oblong. Style thread-shaped, cleft; stigmas spreading, oblong. Seed linear, four-cornered; seed-down simple, sessile. Receptacle nearly flat, naked or slightly scaly.—Name, doubtful. 398.

1. *I. Helénium*. *Elecampane*. Leaves egg-shaped, serrate, rugged, embracing the stem, downy beneath; calyx egg-shaped, leafy.—Root thick, branched: stem three feet high, furrowed, branched and downy above: root-leaves stalked: flowers solitary, terminal, large, bright-yellow. Infusion of the fresh root, sweetened with honey, is esteemed good for promoting expectoration. Perennial: flowers in July and August: grows in moist meadows and pastures: rare. *Eng. Bot.* vol. xxij. pl. 1546. *Eng. Fl.* vol. iii. p. 440. 1200.

2. *I. dysentérica*. *Common Flea-bane*. Leaves oblong, heart-shaped at the base, and embracing the stem, downy; stem woolly, panicled; scales of the calyx bristle-shaped.—Root creeping: stem a foot high or more, corymbose above, with large yellow flowers. It has a peculiar aromatic scent, and is asserted by Linnaeus to have cured the Russian army under General Keith, of dysentery. Perennial: flowers in August: grows in moist meadows and pastures, and by the sides of brooks and ditches: rare in Scotland. *Eng. Bot.* vol. xvi. pl. 1115. *Eng. Fl.* vol. iii. p. 441. 1201.

3. *I. pulicária*. *Small Flea-bane*. Leaves narrow, lance-shaped, embracing the stem, waved; stem much branched, hairy; flowers hemispherical, with very short rays.—Stem about eight inches high, corymbose, purplish: leaves scattered, recurved: flowers solitary, terminal, pale-yellow: receptacle with a few short hairs. Annual: flowers in September: grows in moist places, where water has stood during winter: not common. *Eng. Bot.* vol. xvii. pl. 1196. *Eng. Fl.* vol. iii. p. 441. 1202.

4. *I. crithmóides*. *Samphire-leaved Flea-bane*. Leaves linear, fleshy, generally three-pointed.—Stem a foot high, with a few terminal yellow flowers. Perennial: flowers in August: grows in wet ground on the coast: rare. *Eng. Bot.* vol. i. pl. 68. *Eng. Fl.* vol. iii. p. 442. 1203.

34. *CINERARIA*. FLEA-WORT.

Common calyx simple, cylindrical, of numerous, equal, permanent scales. Compound corolla rayed; florets of the disk numerous, perfect, tubular, with five equal, erect segments;

those of the ray equal in number to the scales of the calyx, strap-shaped, oblong, toothed, without stamens. Filaments thread-shaped, short; anthers united into a cylindrical, five-notched tube. Germen oblong. Style thread-shaped, as long as the stamens; stigma spreading, oblong. Seed linear, four-cornered; seed-down hair-like, sessile, abundant, longer than the seed.—Name from *cineres*, ashes, on account of the colour of the leaves. 399.

1. *C. palustris*. *Marsh Flea-wort*. Flowers in a corymb; leaves broadly lance-shaped, toothed or sinuate; stem woolly.—Stem three feet high, downy and clammy: leaves sessile: flowers pale-yellow. Perennial: flowers in June and July: grows in marshes and ditches in various parts of England: not common. *Eng. Bot.* vol. iii. pl. 254. *Eng. Fl.* vol. iii. p. 443. 1204.

2. *C. campestris*. *Field Flea-wort*. Flowers in a simple and imperfect umbel, with several lance-shaped bracteas; root-leaves elliptical, obscurely toothed, the rest lance-shaped, all cottony.—Stem six or eight inches high, simple, terminating in an imperfect umbel of a few bright-yellow flowers. Perennial: flowers in May and June: grows in hilly pastures in the south of England: frequent. *Eng. Bot.* vol. iii. pl. 152: *C. integrifolia*. *Eng. Fl.* vol. iii. p. 444. 1205.

### 35. DORONICUM. LEOPARD'S-BANE.

Common calyx of about twenty strap-shaped, equal, upright scales, in two rows. Compound corolla rayed; florets of the disk with five spreading segments; those of the ray equal in number to the scales of the calyx, strap-shaped, spreading, with three or five teeth. Filaments in the tubular florets only. Seed inversely egg-shaped, compressed, furrowed; seed-down hairy, wanting to the florets of the ray. Receptacle naked or nearly so.—Name, from *doron*, a gift, and *nike*, victory, the plant being formerly used to destroy wild beasts. 400.

1. *D. Pardalianches*. *Great Leopard's-bane*. Leaves heart-shaped, toothed, the lower ones on long stalks, the upper embracing the stem, the intermediate ones with their stalks dilated into two broad ears at the base, slightly clasping the stem.—Stem from two to four feet high, with a few large yellow flowers: root tuberous. Perennial: flowers in June and July: grows in woods: rare, and often the outcast of gardens. Truly wild in the woods at Gifford, East Lothian, where it is very abundant. *Eng. Bot. Suppl.* pl. 2654. *Brit. Fl.* 4th ed. p. 307. 1206.

2. *D. plantaginum*. *Plantain-leaved Leopard's-bane*. Leaves toothed, lower ones stalked, egg-shaped, or slightly heart-shaped, the rest sessile, except the lowest, which has a winged stalk, and half embraces the stem.—Smaller than the preceding, with the root-leaves produced at the base, the rest varying between egg-shaped and heart-shaped, pointed. Perennial: flowers in June and July: grows in woods: rare, and certainly not indigenous. *Eng. Bot.* vol. ix. pl. 630. *Brit. Fl.* 4th ed. p. 307. 1207.

### 36. BE/LLIS. DAISY.

Common calyx simple, hemispherical, erect, of from ten to twenty lance-shaped equal scales, placed in two rows. Com-

pound corolla rayed; florets of the disk numerous, perfect, tubular, with five equal, spreading segments; those of the ray strap-shaped, slightly notched, more numerous than the scales of the calyx. Filaments hair-like, very short; anthers united into a cylindrical, notched tube. Germens inversely egg-shaped. Style thread-shaped, stigmas oblong, spreading. Seed inversely egg-shaped, compressed; seed-down none. Receptacle conical, hollow, dotted and naked.—Named from *bellus*, pretty. 401.

1. *B. perennis*. *Common Daisy*. Root creeping; flower-stalk leafless.—Leaves numerous, lying flat on the ground; inversely egg-shaped, crenate, slightly hairy, tapering at the base; stalks from two to four inches long, round, hairy, each bearing a single flower, having a yellow conical disk, and a white ray tinged with purple. A variety, called the Hen and Chicken Daisy, sometimes occurs, in which several small stalks, bearing diminutive flowers, spring from the flower. Perennial: flowers from March to November, but individuals may be seen in flower at all seasons: grows in pastures and meadows, abundantly. *Eng. Bot.* vol. vi. pl. 424. *Eng. Fl.* vol. iii. p. 447. 1208.

### 37. CHRYSANTHEMUM. OX-EYE. CORN MARIGOLD.

Common calyx hemispherical, closely imbricated, with numerous, roundish scales, membranous and dilated at the margin, the innermost terminating in a filmy appendage. Compound corolla rayed; florets of the disk very numerous, perfect, tubular, with five equal, spreading segments; those of the ray more than twelve, strap-shaped, between elliptical and oblong, with three teeth. Filaments hair-like, very short; anthers united into a cylindrical, notched tube. Germen inversely egg-shaped. Style thread-shaped, a little longer than the stamens; stigmas oblong, spreading. Seed oblong, or inversely heart-shaped, striated; seed-down none. Receptacle a little convex, naked.—Name from *chrysos*, gold, and *anthos*, flower. 402.

1. *Ch. Leucanthemum*. *Great White Ox-eye*. *Moon-flower*. Leaves oblong, cut, pinnatifid at the base, clasping the stem; root-leaves inversely egg-shaped, stalked.—Stem about two feet high, erect, furrowed: flowers large, solitary, terminal, with a yellow disk, and white ray. Perennial: flowers in June and July: grows in dry pastures and by roads: common. *Eng. Bot.* vol. ix. pl. 601. *Eng. Fl.* vol. iii. p. 449. 1209.

2. *Ch. ségetum*. *Corn Marigold*. Leaves clasping the stem, broadly serrate above, toothed at the base, glaucous.—Stem from one to two feet high, branched, angular, bearing several terminal, large, rich yellow flowers. Annual: flowers in June and July: grows in corn-fields, abundantly. *Eng. Bot.* vol. viii. pl. 540. *Eng. Fl.* vol. iii. p. 450. 1210.

### 38. PYRETHRUM. FEVERFEW.

Common calyx hemispherical, closely imbricated, with several oblong, nearly equal scales, bordered with an equal membrane. Compound corolla rayed; florets of the disk numerous, perfect, tubular, with five equal, spreading segments; those of the ray

numerous, strap-shaped, spreading, with three terminal teeth. Filaments hair-like, short; anthers united into a cylindrical tube. Germens angular, abrupt. Style thread-shaped, not longer than the anthers; stigmas obtuse, spreading. Seed oblong, angular, abrupt, crowned by an elevated membranous border.—Name from *pyr*, fire or fever. 403.

1. *P. Parthénium*. *Common Feverfew*. Leaves stalked, compound, flat; leaflets egg-shaped, cut; panicle corymbose; stem erect.—Stem about two feet high: flowers with a yellow disk and white ray. The whole plant has a strong smell and bitter taste. Perennial: flowers in June and July: grows in waste ground, and on rocks and walls: frequent. *Eng. Bot.* vol. xviii. pl. 1231. *Eng. Fl.* vol. iii. p. 451. 1211.

2. *P. inodórum*. *Corn or Scentless Feverfew*. Leaves sessile, pinnate, with numerous thread-shaped, pointed segments; stem branched, spreading; crown of the seeds entire.—Stem about a foot high, angular, smooth: flowers large, with a convex yellow disk and a pure white ray, on long, terminal, naked stalks. Annual: flowers in August and September: grows in cultivated ground and by roads: common. *Eng. Bot.* vol. x. pl. 676. *Eng. Fl.* vol. iii. p. 452. A maritime variety with fleshy leaves is the *P. maritimum*, *Sea Feverfew*, of some botanists. *Eng. Bot.* vol. xiv. pl. 979. *Eng. Fl.* vol. iii. p. 453. 1212.

### 39. MATRICARIA. WILD CHAMOMILE.

Common calyx slightly convex, closely imbricated, with several oblong, nearly equal scales, membranous at the edges. Compound corolla rayed; florets of the conical disk numerous, perfect, tubular, with five equal, spreading segments; those of the ray numerous, strap-shaped, spreading, abrupt, with three terminal teeth. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen inversely egg-shaped. Style thread-shaped, as long as the anthers; stigmas spreading, obtuse. Seed inversely egg-shaped, angular; seed-down none. Receptacle naked, nearly cylindrical, hollow.—Name from *matrix*, the womb. 404.

1. *M. Chamomilla*. *Common Wild Chamomile*. Leaves smooth, twice pinnatifid, with linear segments; scales of the calyx dilated, obtuse.—Stem a foot high, erect, much branched, smooth, striated: leaves sessile, deep green: flowers large, with a conical yellow disk and white ray. Has the smell of common Chamomile, which it also resembles in the flowers. Annual: flowers from June to October: grows in cultivated and waste ground: frequent. *Eng. Bot.* vol. xviii. pl. 1232. *Eng. Fl.* vol. iii. p. 454. 1213.

### 40. ANTHEMIS. CHAMOMILE.

Common calyx hemispherical, closely imbricated, with several oblong, nearly equal scales. Compound corolla rayed; florets of the disk numerous, perfect, tubular, with five equal, spreading segments; those of the ray numerous, strap-shaped, abrupt, three-toothed. Filaments very short, hair-like; anthers united into a cylindrical tube. Germens inversely egg-shaped. Style thread-shaped, as long as the anthers; stigmas oblong, spreading. Seed inversely egg-shaped, somewhat compressed,

generally crowned with a slight border. Receptacle convex, covered with lance-shaped chaffy scales.—Named from *anthemos*, a flower. 405.

1. *A. maritima*. *Sea Chamomile*. Leaves twice pinnatifid, acute, fleshy, dotted, somewhat hairy; stem prostrate; scales of the receptacle acute, prominent.—Stems about eight inches long, angular, branched, cottony: inner scales of the calyx torn: disk of the flowers convex, yellow: ray cream-coloured. Annual: flowers in July: found at Sunderland, in Durham, by Mr. E. Robson. *Eng. Bot.* pl. 2370. *Eng. Fl.* vol. iii. p. 456. 1214.

2. *A. nobilis*. *Common Chamomile*. Leaves twice pinnate, with semi-cylindrical, acute, somewhat downy segments; stem procumbent; scales of the receptacle membranous, obtuse, shorter than the disk.—Stems about eight inches long, branched, furrowed, downy: flowers terminal, solitary, with a convex yellow disk and white spreading ray. The leaves and flowers have a strong smell, and a bitter taste. The latter are used in infusion as a stomachic and antispasmodic. Perennial: flowers in August and September: grows in dry pastures in various parts of England. *Eng. Bot.* vol. xiv. pl. 980. *Eng. Fl.* vol. iii. p. 456. 1215.

3. *A. arvensis*. *Corn Chamomile*. Leaves twice pinnatifid, hairy, with narrow lance-shaped segments; receptacle conical, with lance-shaped, acute, prominent scales; seeds crowned with a border.—Stem from twelve to eighteen inches high, erect, much branched, covered with soft hairs: flowers solitary, on long terminal stalks, their disk and scales bright-yellow, the ray white. Biennial: flowers in June and July: grows in fields and waste ground: rare. *Eng. Bot.* vol. ix. pl. 602. *Eng. Fl.* vol. iii. p. 457. 1216.

4. *A. Cútila*. *Stinking Chamomile*. Leaves twice pinnatifid, smooth, with linear segments; receptacle conical, with bristle-shaped scales; seeds without a border.—Stem a foot or more high, erect, bushy: flowers solitary, on terminal striated stalks: disk pale-yellow: ray white. Fetid and acrid, blistering the skin. Annual: flowers in June and July: grows in corn-fields and waste ground. *Eng. Bot.* vol. xxv. pl. 1772. *Eng. Fl.* vol. iii. p. 458. 1217.

5. *A. tinctoria*. *Ox-eye Chamomile*. Leaves twice pinnatifid, serrate, downy beneath; stem erect, corymbose; seeds crowned with a membranous undivided border.—Stem eighteen inches high, angular: leaves sessile, with acute, notched segments, cottony beneath: flowers large, bright-yellow in both the ray and disk. Perennial: flowers in July and August. Found in Essex by Mr. Dickson, and near Forfar by Mr. G. Don. *Eng. Bot.* vol. xxi. pl. 1472. *Eng. Fl.* vol. iii. p. 459. 1218.

#### 41. ACHILLÆA. MILFOIL.

Common calyx egg-shaped, imbricated, with several egg-shaped, acute, close scales. Compound corolla rayed; florets of the disk perfect, tubular, with five equal, spreading segments; those of the ray from five to ten, flat, roundish, inversely heart-shaped, with a small intermediate lobe. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen small, inversely heart-shaped. Style thread-shaped, as long as the stamens; stigma obtuse, spreading.

Seed inversely egg-shaped, abrupt; seed-down none. Receptacle narrow, covered with lance-shaped, chaffy scales.—Named after Achilles. 406.

1. *A. Ptarmica*. *Sneeze-wort*. *Goose-tongue*. Leaves narrow, lance-shaped, pointd, acutely serrate, smooth.—Stem simple, erect, from six inches to two feet high, terminating in a large, nearly simple corymb, with white flowers: leaves very minutely, acutely, doubly serrated. Perennial: flowers from the middle of July to the end of September: grows in moist pastures, by ditches, and at the edges of corn-fields: not uncommon. *Eng. Bot.* vol. xi. pl. 757. *Eng. Fl.* vol. iii. p. 460. 1219.

2. *A. serrata*. *Serrated Yarrow*. Leaves narrow lanceolate, sessile, downy, deeply serrate, lacinate at the base; flowers almost simply corymbosc.—Stem simple, erect, downy, about eighteen inches high, terminating in a simple or slightly branched corymb of yellowish flowers, much inferior in size to those of the last species, of which, however, it is probably a mere variety. Perennial: flowers in August: found near Matlock, Derbyshire, by Mr. Rupp and Mr. Williams. *Eng. Bot.* vol. xxxvi. pl. 2531. *Eng. Fl.* vol. iii. p. 461. 1220.

3. *A. Millefolium*. *Common Yarrow*, or *Milfoil*. Leaves twice pinnate, with lance-shaped, pointed segments, hairy on the back: stems furrowed.—Stems commonly decumbent at the base, then erect, about a foot high, terminating in a dense, often-divided corymb, with white or purplish flowers. Perennial: flowers from the middle of June to the end of October: grows on banks, by road-sides, and in dry pastures: common. *Eng. Bot.* vol. xi. pl. 758. *Eng. Fl.* vol. iii. p. 462. 1221.

4. *A. tomentosa*. *Woolly Yellow Milfoil*, or *Yarrow*. Leaves twice pinnatifid, with linear, acute, crowded segments; corymbs repeatedly compound.—Stems about a foot high, decumbent at the base, then erect, terminating an often-divided corymb of yellow flowers. Perennial: flowers in July and August: on Spittle Hill, Dumbartonshire, and on hills near Paisley, discovered by Mr. Hugh Ross: also in Ireland. *Eng. Fl.* vol. iii. p. 462. *Eng. Bot.* pl. 2532. 1222.

## POLYGAMIA FRUSTRANEA.

### 42. CENTAUREA. CENTAURY. KNAPWEED.

Common calyx roundish, closely imbricated, with scales of various forms. Compound corolla of numerous tubular florets; those of the disk perfect, regular, with five equal, spreading segments, an oblong limb, and a slender tube; those of the ray fewer, with a rudimentary pistil, not perfecting seed, spreading, often wanting, funnel-shaped, with five or more unequal segments. Filaments hair-like, very short; anthers united into a cylindrical tube. Germen small, oblong. Style thread-shaped, about the length of the stamens; stigma blunt, often cleft, prominent. Style and stigma very small in the florets of the ray. Seed in the disk only, of various forms; seed-down various, or wanting. Receptacle bristly.—Named after the *Centaur* Chiron. 407.

\* *Scales of the calyx jagged or fringed.*

1. *C. Jacéa*. *Brown Knapweed*. Scales of the calyx membranous, torn, the lower ones pinnatifid; leaves between lance-shaped and linear, root-leaves broader, toothed; flowers with rays.—Stem a foot high, erect, angular, branched: flowers solitary, terminal, light-crimson, on tumid stalks: scales of the calyx brown, the outer deeply pinnatifid, the inner terminating in a light-brown, jagged lobe. Perennial: flowers in August and September: grows in meadows and moist woods: found in Sussex, by Mr. Borrer: in Angus-shire, by Mr. D. Don. *Eng. Bot.* vol. xxiv. pl. 1768. *Eng. Fl.* vol. iii. p. 464. 1223.

2. *C. nigra*. *Black Knapweed*. Scales of the calyx lance-shaped, fringed at the tip with hair-like teeth; lower leaves lyre-shaped; upper ones between egg-shaped and lance-shaped; flowers without rays.—Stem from two or three feet high, woolly when young, afterwards rough: leaves rough: scales of the calyx tipped with an egg-shaped membranous expansion of a dark-brown colour, fringed with long linear teeth: flowers purple. Perennial: flowers in July and August: grows in dry pastures: common. *Eng. Bot.* vol. iv. pl. 278. *Eng. Fl.* vol. iii. p. 465. 1224.

3. *C. Cydnus*. *Corn Blue-bottle*. Scales of the calyx serrate; leaves linear, entire, the lower ones toothed towards their base.—Stem two or three feet high, slender, branched, loosely cottony, as are the leaves: flowers numerous, solitary: florets of the disk large, and of a bright-blue, those of the ray short and purplish. Annual: flowers in July and August: grows in corn-fields: common. *Eng. Bot.* vol. iv. pl. 277. *Eng. Fl.* vol. iii. p. 466. 1225.

4. *C. Scabiosa*. *Greater Knapweed*. Scales of the calyx egg-shaped, fringed, somewhat downy; leaves pinnatifid, with lance-shaped, acute segments.—Stem three feet high, erect, branched, angular: flowers terminal, solitary, large, crimson: scales of the calyx black and triangular at the end, fringed with pale bristles. Perennial: flowers in July and August; grows in dry pastures and corn-fields: frequent. *Eng. Bot.* vol. i. pl. 56. *Eng. Fl.* vol. iii. p. 467. 1226.

\*\* *Scales of the calyx palmate and thorny.*

5. *C. Isnardi*. *Jersey Star-thistle*. Scales of the calyx with palmate spines; leaves oblong, toothed or pinnatifid, roughish, slightly embracing the stem; flowers terminal, solitary, leafy at the base.—Stems about eight inches long, branched, recumbent: flowers light-purple. Perennial: flowers in July and August: grows in pastures in Guernsey: rare. *Eng. Bot.* pl. 2256. *Eng. Fl.* vol. iii. p. 468. 1227.

\*\*\* *Scales of the calyx with compound thorns.*

6. *C. Calcitrapa*. *Common Star-thistle*. Flowers sessile; scales of the calyx with branched thorns; leaves pinnatifid, toothed; stem hairy.—Stem short, spreading, much branched, furrowed: flowers rose-coloured: scales of the calyx terminating in a large channelled thorn, fringed at the base with smaller prickles: the filaments contract when touched. Annual: flowers in July and August: grows in dry pastures and by roads, in various parts of England. *Eng. Bot.* vol. ii. pl. 125. *Eng. Fl.* vol. iii. p. 468. 1228.

7. *C. solstitialis*. *St. Barnaby's Thistle*. Flowers terminal, so-



litary; scales of the calyx with branched thorns; stem winged, with the decurrent, lance-shaped, thornless leaves.—Stem two feet high, branched, spreading, uninterruptedly winged: root-leaves lyre-shaped: flowers bright-yellow. Annual: flowers in July and August: grows in corn-fields and hedges, in the south of England: rare, and probably not indigenous. *Eng. Bot.* vol. iv. pl. 243. *Eng. Fl.* vol. iii. p. 469. 1229.

## CLASS XX. GYNANDRIA.

### *Stamens situated on the Style or Germen.*

#### Order I. MONANDRIA. *One Stamen.*

\* *Anther of two distinct vertical cells, permanent, fixed to the summit of the style.*

1. O'RGHIS. *Nectary with a spur behind.*
2. A'CERAS. *Calyx converging. Nectary without a spur, flat.*
4. O'PHRYS. *Calyx spreading. Nectary without a spur, convex.*
3. HERMI'NIUM. *Calyx spreading. Petals with lateral lobes. Nectary without a spur, flat.*

\*\* *Anther parallel to the stigma, of two cells, close together.*

6. NEO'TTIA. *Calyx converging, embracing the base of the flat spurless nectary. Petals converging. Column without wings.*
5. GOODYE'RA. *Calyx spreading, embracing the base of the globular inflated spurless nectary. Petals converging. Column without wings.*
7. LISTE'RA. *Calyx spreading. Nectary without a spur, nearly flat. Petals spreading. Column without wings.*

\*\*\* *Anther terminal, fixed, permanent.*

8. EPIPA'CTIS. *Nectary spurless, tumid below at the base, contracted in the middle, undivided at the end.*

\*\*\*\* *Anther terminal, moveable, deciduous.*

9. MALA'XIS. *Nectary embracing the column with its concave base, spurless, sessile. Petals spreading.*
10. CORALLORHI'ZA. *Nectary unconnected with the column, spurred or stalked at the base. Petals spreading.*

#### Order II. DIANDRIA. *Two Stamens.*

11. CYPRIPE'DIUM. *Calyx and petals spreading. Nectary inflated. Column with a terminal, dilated appendage.*

#### ORDER III. HEXANDRIA. *Six Stamens.*

12. ABISTOLO'CHIA. *Calyx of one leaf. Corolla none. Stigma six-lobed. Capsule six-celled.*

## GYNANDRIA.—MONANDRIA.

## 1. ORCHIS. ORCHIS.

Calyx superior, of three egg-shaped, partly coloured leaves. Petals two, oblong, smaller than the calyx, ascending. Nectary a roundish or oblong lip, generally lobed, larger than the petals, hanging down anteriorly between the lower leaves of the calyx, and extended behind in the form of a tubular spur. Anther of two oblong cells, each containing an inversely egg-shaped elastic mass of pollen, and opening lengthwise in front. Germen oblong or nearly cylindrical, furrowed, spirally twisted. Style thick and short; stigma a shining moist depression, in front, under or between the masses of pollen. Capsule oblong, spiral. Seeds numerous, oval.—Name of ancient use. 408.

\* *Tubers or knobs of the root undivided.*

1. *O. bifolia*. *Butterfly Orchis*. Lip of the nectary lance-shaped, entire, about half the length of the very long, thread-shaped spur; lateral leaves of the calyx spreading downwards.—Tubers tapering: stem angular, about a foot high: flowers numerous, white. Perennial: flowers in June: grows in woods and open heaths: frequent. *Eng. Bot.* vol. i. pl. 22. *Eng. Fl.* vol. iv. p. 9. 1230.

2. *O. pyramidalis*. *Pyramidal Orchis*. Lip of the nectary in three equal lobes, with two protuberances above; spur long and slender.—Tubers long: stem upwards of a foot high: leaves lance-shaped, channelled, acute: spike dense, pyramidal, rich crimson: the flowers fragrant. Perennial: flowers in July: grows in meadows and pastures: rare. *Eng. Bot.* vol. ii. pl. 110. *Eng. Fl.* vol. iv. p. 10. 1231.

3. *O. Mörrio*. *Green-winged Meadow Orchis*. Lip of the nectary four-cleft, somewhat crenate; spur blunt, ascending; leaves of the calyx many-ribbed, converging.—Tubers nearly round: stem a foot high: leaves spear-shaped: spike rather loose: flowers purple, the disk of the lip white and spotted: the leaves of the calyx ribbed with green. Perennial: flowers in May and June: grows in meadows and pastures in England. *Eng. Bot.* vol. xxix. pl. 2059. *Eng. Fl.* vol. iv. p. 11. 1232.

4. *O. mascula*. *Early Purple or Meadow Orchis*. Lip of the nectary four-lobed, crenate; leaves of the calyx three-ribbed, the two lateral ones reflected upwards.—Tubers elliptical: stem about a foot high: leaves chiefly radical, elliptical or lance-shaped, usually spotted with black: spike rather loose: flowers rich purple: the disk of the lip white and spotted, the ribs of the calyx purple. Perennial: flowers in April and May: grows in meadows and pastures: frequent. *Eng. Bot.* vol. ix. pl. 631. *Eng. Fl.* vol. iv. p. 12. 1233.

5. *O. ustulata*. *Dwarf Orchis*. Lip of the nectary four-lobed, rough, with small points; spur blunt, not half the length of the germen; calyx converging; leaves lance-shaped.—Tubers oval: three or four inches high: leaves without spots: spike oblong, dense: lip of the nectary white at the base with dark-purple spots: leaves of the calyx dark-purple. Perennial: flowers in June: grows in dry pastures in England: not common. *Eng. Bot.* vol. i. pl. 18. *Eng. Fl.* vol. iv. p. 12. 1234.

6. *O. fusca*. *Great Brown-winged Orchis*. Lip of the nectary five-lobed, dilated, rough with prominent points; spur blunt, not half the length of the germen; calyx converging, blunt; leaves oblong.—Tubers oval: stem from one to two feet high: spike cylindrical, rather dense, of dark-purple flowers: leaves of the calyx marked externally with dark-brown lines and confluent spots. Perennial: flowers in May: grows in Kent: rare. *Eng. Bot.* vol. i. pl. 16. *Eng. Fl.* vol. iv. p. 13. *O. militaris*. 1235.

7. *O. militaris*. *Military Orchis*. Lip of the nectary five-lobed, downy, the two intermediate lobes dilated, rounded; spur blunt, not half the length of the germen; leaves of the calyx taper-pointed, converging.—Tubers oval: stem about a foot high: spike about three inches long: flowers rose-red, with the calyx-leaves of a silvery ash-colour: Perennial: flowers in May: grows in meadows and pastures, in the south of England. *Eng. Bot. Suppl.* pl. 2675. *Eng. Fl.* vol. iv. p. 15. 1236.

8. *O. micra*. *Monkey Orchis*. Lip of the nectary five-lobed, downy, four of the lobes equal, linear, entire; spur blunt, not half the length of the germen; leaves of the calyx taper-pointed, converging.—The principal difference between this and the last is in the divisions of the lip. This and the two preceding species smell like woodruff when drying. Perennial: flowers in May: grows on chalk hills in England: rare. *Eng. Bot.* vol. xxvii. pl. 1873. *Eng. Fl.* vol. iv. p. 16. *O. militaris* β. 1237.

9. *O. hircina*. *Lizard Orchis*. Lip of the nectary downy, divided into three linear segments, the middle one very long, twisted and notched at the end; spur short and tumid; leaves of the calyx converging.—Tubers nearly globular: stem from two to three feet high: spike rather loose, of numerous flowers: calyx green, spotted with dull-purple internally. Perennial: flowers in July: grows in pastures in Kent and Surrey: rare. *Eng. Bot.* vol. i. pl. 24. *Eng. Fl.* vol. iv. p. 17. *Satyrium hircinum*. 1238.

\*\*\* *Tubers tapering, clustering.*

10. *O. alba*. *White Cluster-rooted Orchis*. Lip of the nectary divided into three deep acute lobes, the middle one largest; spur one-third the length of the germen.—Stem about a foot high: leaves lance-shaped: spike cylindrical, dense: flowers cream-coloured. Perennial: flowers in June: grows in grassy mountain pastures: frequent. *Eng. Bot.* vol. viii. pl. 505. *Eng. Fl.* vol. iv. p. 18. *Satyrium albidum*. 1239.

11. *O. viridis*. *Frog Orchis*. Lip of the nectary linear, three-cleft, the middle segment smallest; spur very short, slightly cleft.—Stem from four to six inches high: leaves egg-shaped, the uppermost lance-shaped: spike rather lax: flowers green. Perennial: flowers in June and July: grows in dry pastures: frequent. *Eng. Bot.* vol. ii. pl. 94. *Eng. Fl.* vol. iv. p. 20. *Satyrium viride*. 1240.

\*\*\* *Tubers palmate.*

12. *O. latifolia*. *Broad-leaved Orchis*. Lip of the nectary convex, crenate, slightly three-cleft; spur conical; bractæa longer than the flowers.—Stem about a foot high: leaves lance-shaped: spike dense, many-flowered: flowers purple or red. Perennial: flowers in May and June: grows in meadows and pastures: common. *Eng. Bot.* vol. xxxiii. pl. 2308. *Eng. Fl.* vol. iv. p. 21. 1241.

13. *O. maculata*. *Spotted Palmate Orchis*. Lip of the nectary flat,

crenate, three-lobed; spur cylindrical, shorter than the germen; lower bracteas longer than the flowers.—A foot high, slender: leaves lance-shaped, spotted with purplish-brown: flowers pale-purple or whitish, variously spotted with dark-purple or crimson. Perennial: flowers in June and July: grows in meadows, wet heaths and woods: common. *Eng. Bot.* vol. ix. pl. 632. *Eng. Fl.* vol. iv. p. 22. 1242.

14. *O. conopsea*. *Aromatic Palmate Orchis*. Lip of the nectary divided into three equal, entire lobes; spur very slender, twice as long as the germen; leaves of the calyx widely spreading.—About a foot high: leaves narrow lance-shaped: spike oblong, rather dense: flowers rich crimson, exhaling a delicious odour. Perennial: flowers in June and July: grows in dry pastures and heaths: frequent. *Eng. Bot.* vol. i. pl. 10. *Eng. Fl.* vol. iv. p. 23. 1243.

## 2. A'CERAS. \*ACERAS.

Calyx superior, of three egg-shaped, equal, converging, permanent leaves. Petals two, narrow, oblong, as long as the calyx. Nectary a lip without a spur, much longer than the calyx, narrow, oblong, with four linear lobes, the two uppermost longest. Anther of two oblong membranous cells, close together, above the stigma, each containing an inversely egg-shaped, elastic mass of pollen. Germen oblong, furrowed, nearly straight. Style very short; stigma a shining moist depression, in front. Capsule inversely egg-shaped, slightly curved, furrowed. Seeds very numerous.—Name, *a*, without, and *ceras*, a horn. 409.

1. *A. anthropophora*. *Green Man-orchis*. *Man Tway-blade*. Lip longer than the germen.—Tubers roundish, hairy: stem about a foot high: leaves lance-shaped: spike long, loose, of green flowers tinged with brown. Perennial: flowers in June: grows in meadows and pastures in the south of England: not common. *Eng. Bot.* vol. i. pl. 29. *Eng. Fl.* vol. iv. p. 25. *Ophrys anthropophora*. 1244.

## 3. HERMINIUM. HERMINIUM.

Calyx superior, of three egg-shaped, equal, spreading, permanent leaves. Petals two, egg-shaped, fleshy, spreading, three-lobed, acute, nearly as long as the calyx. Nectary a lip without a spur, deeply three-lobed, slightly tumid at the base beneath, rather longer than the petals and similar to them. Anthers roundish, of two cells, close together, over the stigma. Germen oblong, twisted, furrowed. Style short and thick; stigma a moist cavity in front. Capsule oblong, triangular, nearly straight. Seeds very numerous.—Name from *hermin*, a bed-post. 410.

1. *H. monorchis*. *Green Musk Orchis*, or *Tway-blade*. Root-leaves two, lance-shaped.—Root of several woolly fibres, and one globular hairy tuber: stem about six inches high: spike dense: flowers small, numerous, greenish-yellow, with a musky smell. Perennial: flowers in July: grows in dry pastures in the east and south-east of England: frequent. *Eng. Bot.* vol. i. pl. 71. *Eng. Fl.* vol. iv. p. 27. *Ophrys monorchis*. 1245.

## 4. O'PHRYS. OPHRYS.

Calyx superior, of three oblong, ribbed, equal, spreading leaves. Petals two, narrow-oblong, smaller than the calyx, spreading, undivided. Nectary a lip without a spur, longer than the calyx, convex above, concave beneath, variously lobed. Anthers oblong, of two parallel cells, close together over the stigma. Germen oblong, furrowed, curved. Style short and thick, channelled in front; stigma a moist cavity under the anther. Capsule oblong, obtuse, angular. Seeds very numerous, minute.—Name, *ophrys*, the eye-brow. 411.

1. *O. muscifera*. *Fly Orchis*. Lip twice the length of the calyx, with four expanded lobes, somewhat downy; petals linear; style obtuse.—Stem about a foot high: spike thin, of about six flowers which bear a strong resemblance to flies: calyx green: petals dark-red: lip with a pale-blue spot in the middle. Perennial: flowers in June: grows in pastures and meadows, in England: frequent. *Eng. Bot.* vol. i. pl. 64. *Eng. Fl.* vol. iv. p. 23. 1246.

2. *O. apifera*. *Bee Orchis*. Lip as long as the calyx, with five reflected marginal lobes, the terminal lobe awl-shaped, the rest hairy above; calyx coloured; style with a hooked point.—Stem about a foot high: spike thin: calyx rose-coloured; petals greenish: lip dark-brown, spotted with yellow. Perennial: flowers in April: grows in dry pastures in the south of England: frequent. *Eng. Bot.* vol. vi. pl. 383. *Eng. Fl.* vol. iv. p. 30. 1247.

3. *O. arachnites*. *Late Spider Orchis*. Lip longer than the calyx, dilated, somewhat tumid, with five shallow, inflected, marginal lobes, the terminal lobe flattened; calyx coloured, column with a hooked point; petals deltoid, downy.—Leaves like those of *O. apifera*, usually narrower. Perennial: flowers in July: found in chalky pastures, near Folkstone, Kent, by Mr. G. E. Smith. *Eng. Fl.* vol. iv. p. 273. 1248.

4. *O. aranifera*. *Early Spider Orchis*. Lip as long as the calyx, roundish, hairy, with four shallow, reflected, marginal lobes; style acute, incurved; petals linear, smooth.—Stem about six inches high: spike few-flowered: calyx and petals green: lip dark-brown. Perennial: flowers in April: grows in dry pastures in the south of England: rare. *Eng. Bot.* vol. i. pl. 65. *Eng. Fl.* vol. iv. p. 31. The *O. fucifera*, *Drone Orchis*, is a variety of this plant, with the lip inversely egg-shaped, undivided, with a spreading wavy margin. *Eng. Bot. Suppl.* pl. 2649. *Eng. Fl.* vol. iv. p. 32. 1249.

## 5. GOODYERA. GOODYERA.

Calyx superior, of three egg-shaped, spreading, permanent, coloured leaves, the two lateral ones somewhat dilated at the outer margin, and meeting under the nectary. Petals two, half-ovate, erect, converging. Nectary spurless, as long as the petals, prominent, inflated and inversely egg-shaped beneath, terminating above in an oblong, acute point. Anther roundish, parallel to the stigma, of two parallel cells close together. Germen inversely egg-shaped, angular, incurved. Style short; stigma prominent, pointed. Capsule nearly elliptical, angular. Seeds minute.—Named after *Mr. Goodyer*, an English botanist. 412.

1. *G. repens*. *Creeping Goodyera*. Leaves egg-shaped; spike spiral; lip and petals lance-shaped.—Root creeping: stem about six inches high: spike spiral, the flowers inclining one way, pale-green, with a sweet scent. Perennial: flowers in July: grows in fir woods in the north of Scotland: not common. *Eng. Bot.* vol. v. pl. 289. *Eng. Fl.* vol. iv. p. 33. *Satyrium repens*. 1250.

#### 6. NEO'TTIA. LADIES'-TRESSES.

Calyx superior, of three egg-shaped, converging, permanent, coloured leaves. Petals two, oblong, erect, converging under the upper leaf of the calyx. Nectary spurless, as long as the calyx, prominent, oblong, bluntish, keeled beneath. Anther roundish, parallel to the stigma, of two cells close together. Germen inversely egg-shaped, with three furrows. Style short, thick, cylindrical; stigma prominent, globose, with two points. Capsule inversely egg-shaped, with three furrows. Seeds very minute.—Name *neottia*, a bird's-nest. 413.

1. *N. spiralis*. *Ladies'-tresses*. Leaves egg-shaped, stalked; spike twisted, the flowers pointing one way; bractees downy, tumid; lip egg-shaped, entire.—Leaves all radical: stalk about four inches high: flowers small, white, highly fragrant. Perennial: flowers in August and September: grows in pastures and meadows, in various parts of England. *Eng. Bot.* vol. viii. pl. 541. *Eng. Fl.* vol. iv. p. 35. *Ophrys spiralis*. 1251.

2. *N. astivalis*. *Summer Ladies'-tresses*. Root-leaves between linear and lanceolate, those of the stem narrowly lance-shaped; spike loose, twisted.—Root of elongated cylindrical tubers. Perennial: flowers in July and August: discovered by Messrs. Babington and Christy in marshy ground in Jersey. Near London. *Eng. Bot. Suppl.* pl. 2817. *Brit. Fl.* 4th ed. p. 318. *Prim. Fl. Sarn.* p. 93. 1252.

3. *N. gemmipara*. *Proliferous Ladies'-tresses*. Leaves lanceolate, as tall as the stalk; spike three-ranked, twisted; bractees smooth.—Root of two slender fleshy elongated tubers: leaves erect, acute, three-ribbed: spike egg-shaped, dense, of about eighteen white flowers. Perennial: flowers in July: said to have been found by Mr. Drummond, on the north side of Bantry Bay, Ireland. *Eng. Bot. Suppl.* pl. 2786. *Eng. Fl.* vol. iv. p. 36. 1253.

#### 7. LISTERA. LISTERA.

Calyx superior, of three egg-shaped, spreading, permanent leaves. Petals two, lance-shaped, spreading, nearly as long as the calyx. Nectaries spurless, much longer than the petals, two- or four-lobed, the disk with a longitudinal central furrow. Anther oblong, parallel to the stigma, of two close, parallel, linear cells. Germen roundish, angular. Style cylindrical, very short. Stigma of two unequal flat lips, the lower rounded, very short. Capsule oblong, obtuse, ribbed. Seeds minute.—Named after *Dr. Martin Lister*, an English naturalist. 414.

1. *L. ovata*. *Common Tway-blade*. Leaves elliptical, opposite; nectary with two linear lobes.—Root of numerous long, cylindrical, smooth radicles, connected in bundles by one common fibre:

stems from one to two feet high, bearing two sessile leaves: spike clustered, of numerous green flowers. Perennial: flowers in June: grows in woods and pastures: frequent. *Eng. Bot.* vol. xxii. pl. 1548. *Eng. Fl.* vol. iv. p. 37. 1254.

2. *L. cordata*. *Heart-leaved Mountain Hoay-blade*. Leaves heart-shaped, opposite; nectary four-lobed.—Root of a few long fibres: stem three or four inches high: only two leaves on the stem: spike of a few small, green flowers. Perennial: flowers in July: grows in woods and on moors, in the north of England and in Scotland: frequent. *Eng. Bot.* vol. v. pl. 358. *Eng. Fl.* vol. iv. p. 38. *Ophrys cordata*. 1255.

3. *L. Nidus-Avis*. *Bird's-nest Listera*. Stem leafless, clothed with sheathing scales; nectary with two spreading lobes.—Root of very numerous, tufted, cylindrical fibres: stem about a foot high: no leaves: flowers pale-brown. Perennial: flowers in May and June: grows in shady woods, among dead leaves: not common. *Eng. Bot.* vol. i. pl. 48. *Eng. Fl.* vol. iv. p. 39. 1256.

## 8. EPIPACTIS. HELLEBORINE.

Calyx superior, of three egg-shaped, acute, permanent leaves. Petals two, egg-shaped, spreading, as long as the calyx. Nectary scarcely spurred, not longer than the petals, concave at the base, contracted in the middle, undivided at the end. Anther terminating the style, fixed, of two close parallel cells. Germen oblong, angular. Style incurved; stigma close under the anther, prominent, angular, undivided. Capsule oblong, angular. Seeds small, roundish.—Name given by the Greeks to a kind of Hellebore. 415.

1. *E. latifolia*. *Broad-leaved Helleborine*. Leaves egg-shaped, embracing the stem; flowers drooping; lower bractees longer than the flowers; lip shorter than the calyx, entire, with a minute point.—Root creeping: stem from one to two feet high: leaves becoming gradually narrower as they ascend: spike long, loose, greenish-purple. Perennial: flowers in July and August: grows in woods and pastures: not common. *Eng. Bot.* vol. iv. pl. 269. *Eng. Fl.* vol. iv. p. 40. *Serapias latifolia*. 1257.

2. *E. pulustris*. *Marsh Helleborine*. Leaves lance-shaped, embracing the stem; flowers drooping; lip rounded, obtuse, crenate, as long as the petals, with a notched protuberance on the disk.—Root creeping: stem about a foot high: flowers few, whitish, tinged with crimson, forming a loose egg-shaped spike. Perennial: flowers in July and August: grows in wet meadows and marshes: not common. *Eng. Bot.* vol. iv. pl. 270. *Eng. Fl.* vol. iv. p. 42. *Serapias palustris*. 1258.

3. *E. grandiflora*. *Large White Helleborine*. Leaves lance-shaped, inclining to elliptical; bractees longer than the germen; flowers sessile, erect; lip abrupt, shorter than the calyx, with elevated lines on the disk.—Root creeping: stem a foot high: flowers large, white. Perennial: flowers in June: grows in woods: rare. *Eng. Bot.* vol. iv. pl. 271. *Eng. Fl.* vol. iv. p. 43. *Serapias grandiflora*. 1259.

4. *E. ensifolia*. *Narrow-leaved White Helleborine*. Leaves lance-shaped, pointed; bractees much shorter than the germen; flowers sessile, erect; lip abrupt, half the length of the calyx, with elevated

lines on the disk.—Root creeping: stem more than a foot high: flowers large, white. Perennial: flowers in May and June: grows in mountainous woods: rare. *Eng. Bot.* vol. vii. pl. 494. *Eng. Fl.* vol. iv. p. 44. *Serapias ensifolia.* 1260.

5. *E. rubra.* *Purple Helleborine.* Leaves lance-shaped; bractes longer than the germen; flowers sessile, erect; lip tapering to a point, with elevated undulating lines on the disk.—Root creeping: stem above a foot high: flowers large, rose-coloured, in a loose spike. Perennial: flowers in May and June: grows in woods: very rare. Gloucestershire, and Methven woods in Perthshire. *Eng. Bot.* vol. vii. pl. 437. *Eng. Fl.* vol. iv. p. 45. *Serapias rubra.* 1261.

### 9. MALAXIS. BOG-ORCHIS.

Calyx superior, of three oblong, spreading, permanent leaves. Petals two, spreading, oblong, smaller than the calyx. Nectary spurless, variously shaped. Anther terminal, hemispherical, deciduous, of two close cells. Germen inversely egg-shaped, angular. Style convex at the back, flat or concave in front; stigma close beneath the anther in front. Capsule oblong, ribbed. Seeds numerous, minute.—Name from *malaxis*, soft. 416.

1. *M. paludosa.* *Least Bog-orchis. Marsh Tway-blade.* Leaves about four, egg-shaped, rough at the extremity; stalk five-cornered; lip entire, concave, acute, half the length of the calyx.—Roots bulbous, egg-shaped: stem from three to five inches high: spike long, slender, of small greenish flowers. Perennial: flowers in July: grows in spongy bogs: not common. *Eng. Bot.* vol. i. pl. 72. *Eng. Fl.* vol. iv. p. 47. 1262.

2. *M. Læselii.* *Two-leaved Bog-orchis.* Leaves two, narrow, elliptical; stalk three-cornered; lip inversely egg-shaped, channelled, entire, recurved, longer than the calyx.—Bulb egg-shaped, greenish: spike few-flowered: flowers pale-yellow. Perennial: flowers in July: grows in sandy bogs, in the south of England: rare. *Eng. Bot.* vol. i. pl. 47. *Eng. Fl.* vol. iv. p. 48. *Ophrys Læselii.* 1263.

### 10. CORALLORHIZA. CORAL-ROOT.

Calyx superior, of three lance-shaped, spreading, permanent leaves. Petals two, oblong, ascending, nearly as long as the calyx. Nectary with a spur, the lip three-lobed, rather shorter than the calyx. Anther terminal, hemispherical, two-celled. Germen oblong. Style incurved, shorter than the petals, convex behind, channelled before; stigma obsolete, beneath the anther. Capsule oblong. Seeds numerous, extremely minute.—Name from *corallion*, coral, and *rhiza*, a root. 417.

1. *C. innata.* *Spurless Coral-root.* Spur of the nectary short, not distinct from the lip.—Root of numerous compound branches, of a pale-brown colour, resembling coral in its mode of ramification: no leaves: stalk about five inches high: spike of from five to ten pale-yellowish flowers. Perennial: flowers in May and June: grows in marshy places in Scotland: rare. Near the head



of Little Loch Broom, in Ross-shire; Ravelrig Bog, and bog to the south of Dalmahoy-hill, near Edinburgh; sands of Barry, near Dundee. *Eng. Bot.* vol. xx. pl. 1547. *Eng. Fl.* vol. iv. p. 49. *Ophrys Corallorrhiza*. 1264.

## DIANDRIA.

### 11. CYPRIPEDIUM. LADIES'-SLIPPER.

Calyx superior, of three lance-shaped, spreading, coloured leaves, the upper one broadest. Petals two, about the same length, spreading, narrow lance-shaped. Nectary spurless, with an inflated, obtuse, prominent lip, having an irregular longitudinal fissure above. Filaments two on the style, lateral, oblong. Anthers lateral, elliptical. Germen oblong, triangular. Style short, somewhat compressed, terminating above the stamens in a dilated lobe; stigma beneath this lobe, and parallel to it, dilated and flattened. Capsule oblong, angular. Seeds oblong, numerous.—Name from *Cypris*, Venus, and *podion*, a slipper. 418.

1. *C. Calceolus*. *Common Ladies'-slipper*. Stem leafy; terminal lobe of the style elliptical, obtuse, channelled; lip somewhat compressed, shorter than the petals.—Root tuberous, branching: stem a foot high: flower solitary, terminal, large, dark-brown. Perennial: flowers in June: grows in woods: has been found in a few places in the north of England only. *Eng. Bot.* vol. i. pl. 1. *Eng. Fl.* vol. iv. p. 51. 1265.

## HEXANDRIA.

### 12. ARISTOLOCHIA. BIRTHWORT.

Calyx superior, of one leaf, tubular, coloured, permanent; nearly globose at the base, with the limb dilated. Corolla none. Filaments none; anthers six, sessile, on the outer surface of a notched cup, crowning the germen, two-celled, each cell two-valved. Germen inferior, oblong, angular. Style very short; stigma nearly globular, six-lobed, the summit concave. Capsule large, oval, six-cornered, six-celled, six-valved. Seeds numerous in each cell, triangular.—Named from its supposed medicinal power. 419.

1. *A. Clematitis*. *Common Birthwort*. Leaves heart-shaped; stem erect; flowers aggregate, erect.—Roots long, slender: stems about two feet high, erect, zig-zag, leafy, unbranched; flowers, several from the bosom of each leaf, on simple stalks, pale-yellow. Perennial: flowers in July and August: grows in woods and thickets, and among ruins in the south of England, but is not indigenous, having formerly been cultivated. *Eng. Bot.* vol. vi. pl. 398. *Eng. Fl.* vol. iv. p. 53. 1266.

## CLASS XXI. MONŒCIA.

*Plants having Flowers furnished with Stamens only, and  
Flowers furnished with Pistils only, on the same individual.*

Order I. MONANDRIA. *One Stamen.*

1. EUPHORBIA. *Involucre with numerous barren or stamiferous flowers, and one fertile or pistilliferous.*  
*Barren flower. Calyx none. Corolla none.*  
*Fertile flower. Calyx none. Corolla none. Capsule three-lobed. Styles three-cleft.*
2. ZANNICHELLIA. *Involucre none.*  
*Barren flower. Calyx none. Corolla none.*  
*Fertile flower. Calyx of one leaf. Corolla none. Germens four or more. Seeds four, stalked.*

(*Callitriche. Typha minor.*)

Order II. DIANDRIA. *Two Stamens.*

(*Calea pulicaris, stellulata, and other species.*)

Order III. TRIANDRIA. *Three Stamens.*

4. SPARGANIUM. *Flowers in globular heads.*  
*Barren flower. Calyx three-leaved. Corolla none.*  
*Fertile flower. Calyx three-leaved. Corolla none. Drupe dry.*
5. CAREX. *Flowers in imbricated catkins.*  
*Barren flower. Calyx a chaff-scale. Corolla none.*  
*Fertile flower. Calyx a chaff-scale. Corolla a husk, investing the loose seed.*
6. ELYNA. *Flowers in imbricated, two-rowed catkins.*  
*Barren flower. Calyx a chaff-scale. Corolla none.*  
*Fertile flower. Calyx a chaff-scale. Corolla none. Seed one, loose.*
3. TYPHA. *Flowers in a cylindrical, hairy catkin.*  
*Barren flower. Calyx none. Corolla none. Anthers three on each filament.*  
*Fertile flower. Calyx none. Corolla none. Seed one, on a hairy stalk.*

(*Amaranthus.*)

Order IV. TETRANDRIA. *Four Stamens.*

11. ERIOCAULON. *Flowers in a compact scaly head.*  
*Barren flower, in the middle. Calyx none. Corolla of one petal, with four or six segments. Stamens four or six.*  
*Fertile flower, in the circumference. Petals four or six. Style one. Capsule superior, two or three-lobed. Seeds solitary.*
7. LITTORELLA. *Barren flower. Calyx four-leaved. Corolla with four segments. Stamens hair-like, very long.*  
*Fertile flower. Calyx none. Corolla unequally three-cleft. Style very long. Nut one-celled.*

10. *URTICA*. *Barren flower*. *Calyx* four-leaved. *Corolla* none. *Nectary* central, cup-shaped. *Stamens* as long as the calyx. *Fertile flower*. *Calyx* two-leaved. *Corolla* none. *Seed* one, superior, polished.
9. *BUXUS*. *Barren flower*. *Calyx* three-leaved. *Petals* two. Rudiment of a germen. *Fertile flower*. *Calyx* four-leaved. *Petals* three. *Styles* three. *Capsule* three-celled. *Seeds* two.
8. *ALNUS*. *Barren flower*. *Calyx* the scale of a catkin, permanent, three-flowered. *Corolla* deeply four-cleft. *Fertile flower*. *Calyx* the scale of a catkin, permanent, two-flowered. *Corolla* none. *Style* two. *Nut* compressed, without wings.

(Myrica.)

Order V. PENTANDRIA. *Five Stamens.*

12. *XANTHIUM*. *Barren flower*. *Common calyx* imbricated, many-flowered, with intermediate scales. *Corolla* of one petal, funnel-shaped, five-cleft. *Fertile flower*. *Calyx* of two leaves, with two flowers. *Corolla* none. *Drupe* coated with the prickly calyx. *Nut* two-celled.
13. *AMARANTHUS*. *Barren flower*. *Calyx* of three or five leaves. *Corolla* none. *Stamens* three or five. *Fertile flower*. *Calyx* of three or five leaves. *Corolla* none. *Styles* three or two. *Capsule* one-celled. *Seed* one.
14. *BRYONIA*. *Barren flower*. *Calyx* five-toothed. *Corolla* five-cleft. *Filaments* three. *Anthers* five. *Fertile flower*. *Calyx* five-toothed, deciduous. *Corolla* five-cleft. *Style* three-cleft. *Berry* inferior. *Seeds* few.  
(Fagus, Quercus. Atriplex.)

Order VI. POLYANDRIA. *More than Five Stamens.*

16. *MYRIOPHYLLUM*. *Barren flowers*. *Calyx* four-leaved. *Petals* four. *Stamens* eight. *Fertile flowers*. *Calyx* four-leaved. *Petals* four. *Stigmas* four, sessile. *Drupe* four.
19. *POTERIUM*. *Barren flowers*. *Calyx* three-leaved. *Corolla* deeply four-cleft. *Stamens* from thirty to fifty. *Fertile flowers*. *Calyx* three-leaved. *Corolla* deeply four-cleft. *Pistils* two. *Nut* two-celled.
17. *SAGITTARIA*. *Barren flowers*. *Calyx* three-leaved. *Petals* three. *Stamens* about twenty-four. *Fertile flowers*. *Calyx* three-leaved. *Petals* three. *Pistils* numerous. *Seeds* numerous, bordered.
15. *CERATOPHYLLUM*. *Barren flowers*. *Calyx* many-cleft. *Corolla* none. *Stamens* from sixteen to twenty. *Fertile flowers*. *Calyx* many-cleft. *Corolla* none. *Stigma* sessile, oblique. *Drupe* compressed.
21. *FAGUS*. *Barren flowers* in a catkin. *Calyx* with several segments. *Corolla* none. *Stamens* from five to twenty. *Fertile flowers*. *Calyx* double; the outer inferior, prickly, deeply divided into several segments, two or three-flowered; the inner superior, five or six-cleft. *Corolla* none. *Styles* five or six. *Nuts* two or three, invested by the enlarged outer calyx.

20. **QUERCUS.** *Barren flowers* in a loose catkin. *Calyx* divided into several segments. *Corolla* none. *Stamens* eight or more. *Fertile flowers.* *Calyx* double; the outer inferior, scaly, undivided; the inner superior, with six deep segments. *Corolla* none. *Style* onc. *Nut* solitary, closely invested at its base with the hemispherical outer calyx.
24. **CORYLUS.** *Barren flowers* in a cylindrical catkin. *Calyx* a three-cleft scale. *Corolla* none. *Stamens* eight or more. *Fertile flowers.* *Calyx* double; the outer inferior, divided; the inner superior, minute. *Corolla* none. *Styles* two. *Nut* solitary, hard, invested by the enlarged, leathery, outer calyx.
23. **CARPINUS.** *Barren flowers* in a cylindrical catkin. *Calyx* a rounded scale. *Corolla* none. *Stamens* ten or more. *Fertile flowers.* *Calyx* double; the outer inferior, of several deciduous scales; the inner superior, with three deep, egg-shaped, acute, permanent segments. *Corolla* none. *Styles* two. *Nut* egg-shaped, angular, naked.
22. **BETULA.** *Barren flowers* in a cylindrical catkin. *Calyx* a ternate scale. *Corolla* none. *Stamens* ten or twelve. *Fertile flowers* in an oblong catkin. *Calyx* a three-lobed, three-flowered scale. *Corolla* none. *Styles* two. *Nut* winged, deciduous.
18. **ARUM.** *Common calyx* a sheath inclosing a common stalk, naked above. *Corolla* none. *Barren flowers.* *Stamens* numerous, in a dense ring, surmounted by a ring of abortive filaments. *Fertile flowers.* *Germens* numerous, in a dense ring beneath the stamens, sessile. *Styles* none. *Stigmas* downy. *Berry* one-celled, with several seeds.

Order VII. MONADELPHIA. *Filaments united.*

25. **PINUS.** *Barren flowers* in a catkin, naked. *Stamens* numerous, on a common stalk. *Fertile flowers* in a catkin of imbricated, close, stiff, two-flowered scales. *Seeds* two to each scale, winged.

MONŒCIA.—MONANDRIA.

1. EUPHORBIA. SPURGE.

Involucre of one leaf, with four or five marginal lobes, permanent, containing several barren flowers, and one central fertile flower, all destitute of calyx and corolla. Nectaries four or five, fleshy, tumid, abrupt, coloured.

*Barren flower.* Filament simple, hair-like, erect. Anther of two globular separate lobes.

*Fertile flower.* Germen roundish, three-lobed. Styles three, equal, cleft, spreading, permanent. Stigmas bluntish. Capsule roundish, three-lobed, three-celled. Seeds one in each cell, large, roundish.—Named after *Euphorbus*, physician to Juba.

\* *Stem forked.*

1. *E. Péplis*. *Purple Spurge*. Leaves oblong, heart-shaped; involucre solitary, axillar; stems procumbent; capsule smooth.—Stems about six inches long, glaucous, tinged with purple: leaves opposite, on short stalks: flowers solitary, small, from the forks of the stem: nectaries four, rounded. Annual: flowers from June to September: grows on the sandy coasts of Devonshire and Cornwall. Channel Islands. *Eng. Bot.* vol. xxviii. pl. 2002. *Eng. Fl.* vol. iv. p. 59. 1267.

\*\* *Umbel of three rays.*

2. *E. Péplus*. *Petty Spurge*. Umbel three-rayed, forked; bracteas egg-shaped; leaves inversely egg-shaped, stalked; nectaries crescent-shaped.—Six or eight inches high, pale-green: umbel large. Annual: flowers in July and August: grows in loose soil, in corn-fields, gardens, &c.: common. *Eng. Bot.* vol. xiv. pl. 959. *Eng. Fl.* vol. iv. p. 60. 1268.

3. *E. exigua*. *Dwarf Spurge*. Umbel three-rayed, forked; bracteas lance-shaped; leaves between linear and lance-shaped; nectaries horned.—From three to six inches high: flowers small. Annual: flowers in July: grows in corn-fields and loose soil: frequent. *Eng. Bot.* vol. xix. pl. 1336. *Eng. Fl.* vol. iv. p. 61. 1269.

\*\*\* *Umbel of four rays.*

4. *E. Lathyris*. *Caper Spurge*. Umbel four-rayed, forked; leaves in four rows, opposite, sessile, entire, heart-shaped at the base.—Stem two or three feet high, smooth, purplish: bracteas heart-shaped. Biennial: flowers in June and July: grows in thickets, but is not indigenous. Thickets about Upton, near Reading, Berks: Steep Holmes in the Severn. *Eng. Bot.* vol. xxxii. pl. 2255. *Eng. Fl.* vol. iv. p. 61. 1270.

\*\*\*\* *Umbel of five rays.*

5. *E. helioscopia*. *Sun Spurge*. *Wart-wort*. Umbel of five forked rays; bracteas and leaves inversely heart-shaped, serrate; nectaries four, undivided; capsule smooth.—From six inches to a foot high. Annual: flowers from June to October: grows in corn-fields and gardens: common. Like others of the genus, this species abounds with an acrid milky juice, which is used for destroying warts. *Eng. Bot.* vol. xiii. pl. 883. *Eng. Fl.* vol. iv. p. 63. 1271.

6. *E. Portlandica*. *Portland Spurge*. Umbel five-rayed, forked; bracteas somewhat heart-shaped, concave; leaves oblong, pointed, smooth; nectaries four, undivided; capsules rough at the corner.—Stems about a foot high, ascending: rays of the umbel repeatedly forked. Perennial: flowers in August: grows on the sea-coast in the south of England: rare. *Eng. Bot.* vol. vii. pl. 441. *Eng. Fl.* vol. iv. p. 62. 1272.

7. *E. pardia*. *Sea Spurge*. Umbel about five-rayed, branched; bracteas broadly heart-shaped; leaves oblong, imbricated upwards; nectaries five; capsule nearly smooth.—Stem about a foot high, with very numerous leaves. Perennial: flowers in August and September: grows in sand on the sea-shore: rare. *Eng. Bot.* vol. iii. pl. 195. *Eng. Fl.* vol. iv. p. 63. 1273.

8. *E. platyphylla*. *Broad-leaved Warty Spurge*. Umbel of about five forked rays; leaves lance-shaped, finely serrate; nectaries four,

rounded, entire, capsule warty.—Stem erect, about a foot high, with numerous leaves above. Annual: flowers in July and August: grows in corn-fields, in England: rare, and not indigenous. *Eng. Bot.* vol. v. pl. 333. *Eng. Fl.* vol. iv. p. 64: *E. stricta*. 1274.

\*\*\*\*\* Umbel of six or more rays.

9. *E. Esula*. *Leafy-branched Spurge*. Umbel of numerous forked rays; bractees somewhat heart-shaped; leaves linear, somewhat inversely egg-shaped, uniform; nectaries diamond-shaped, with two lateral horns; capsule smooth.—Stems a foot and a half high: leaves numerous. Perennial: flowers in July: grows in woods: rare, but is perhaps never truly wild. At Abercorn, Gladsmuir-kirk, and West Pilton, near Edinburgh; at Slinfold, Sussex; and near Coldstream. *Eng. Bot.* vol. xx. pl. 1399. *Eng. Fl.* vol. iv. p. 65. 1275.

10. *E. Cyprissias*. *Cypress Spurge*. Umbel of numerous forked rays; bractees somewhat heart-shaped; stem-leaves lance-shaped, those of the branches linear; nectaries crescent-shaped; capsule smooth.—Stem about a foot high. Perennial: flowers in June and July: grows in woods and the borders of fields: rare, and not indigenous. *Eng. Bot.* vol. xii. pl. 840. *Eng. Fl.* vol. iv. p. 66. 1276.

11. *E. Hiberna*. *Irish Spurge*. Umbel of six forked rays; bractees egg-shaped; leaves inversely egg-shaped; stem simple; nectaries kidney-shaped; capsule warty.—Stem nearly two feet high. Perennial: flowers in June: found in Kent by Mr. Hudson. The bruised root is said to be used in Ireland for poisoning fish. *Eng. Bot.* vol. xix. pl. 1337. *Eng. Fl.* vol. iv. p. 67. 1277.

12. *E. amygdaloides*. *Wood Spurge*. Umbel of about six forked rays, with numerous axillar stalks beneath: bractees rounded, perfoliate; leaves oblong, hairy; capsule smooth.—The whole plant downy. Perennial: flowers in March and April: grows in woods and thickets in England, not common. *Eng. Bot.* vol. iv. pl. 266. *Eng. Fl.* vol. iv. p. 68. 1278.

2. ZANNICHE/LLIA. HORNED POND-WEED.

Barren flower. Calyx none. Corolla none. Filament solitary, sessile, erect; anther oblong, erect, two or four-celled.

Fertile flower solitary, by the side of the barren flower. Calyx of one small, cleft leaf, inferior. Corolla none. Germens four or five, stalked, oblong, incurved. Style one to each germen; stigma one, peltate, egg-shaped, dilated. Capsules stalked, oblong, incurved, one-celled, one-valved, tipped with the permanent style. Seed solitary.—Named after *J. J. Zannichelli*, a Venetian botanist. 421.

1. *Z. palustris*. *Common Horned Pond-weed*. Anther four-celled; stigmas entire.—Stem twelve or eighteen inches long, thread-shaped, branched, floating. Annual: flowers in July: grows in ponds and ditches: frequent. *Eng. Bot.* vol. xxvi. pl. 1844. *Eng. Fl.* vol. iv. p. 70. 1279.

## TRIANDRIA.

## 3. TY'PHA. REED-MACE.

Barren flowers numerous, arranged in a dense, cylindrical, hairy, terminal catkin, the common stalk of which is hairy or scaly. Calyx none. Corolla none. Anthers about three, oblong, furrowed, drooping, placed on a common filament.

Fertile flowers numerous, in the lower part of the same catkin. Calyx none. Corolla none. Germen superior, oblong, stalked. Style hair-like; stigma simple. Seed solitary, egg-shaped, on a bristly stalk.—Named from *típhos*, a marsh. 422.

1. *T. latifolia*. *Great Cat's-tail* or *Reed-mace*. Leaves linear, somewhat convex beneath; catkin continuous, its common stalk hairy.—Stems about six feet high, erect, round, leafy at the bottom: catkin about a foot long, brown. Perennial: flowers in July: grows in the borders of ponds, lakes, and rivers: frequent. *Eng. Bot.* vol. xxi. pl. 1455. *Eng. Fl.* vol. iv. p. 71. 1280.

2. *T. angustifolia*. *Lesser Cat's-tail* or *Reed-mace*. Leaves linear, convex beneath, channelled above; barren and fertile catkins separated from each other, the common stalk scaly.—Stems about four feet high. Perennial: flowers in June and July: grows in pools and ditches: rare. *Eng. Bot.* vol. xxi. pl. 1456. *Eng. Fl.* vol. iv. p. 72. 1281.

## 4. SPARGANIUM. BUR-REED.

Flowers arranged in several dense heads.

Barren flowers numerous, in one or more superior heads. Calyx of three or more oblong, equal, deciduous leaves. Corolla none. Filaments three, hair-like, erect, longer than the calyx; anthers roundish, two-celled.

Fertile flowers numerous, in dense heads under the former. Calyx of three or more oblong, equal, deciduous leaves. Corolla none. Germen superior, egg-shaped. Stigma awl-shaped, or egg-shaped, oblique, downy on one side, permanent. Drupe inversely egg-shaped, beaked, dry, one-celled. Nut solitary, egg-shaped.—Name, from *sparganon*, a little band. 423.

1. *S. ramósum*. *Branched Bur-reed*. Leaves triangular at the base, their sides concave; common flower-stalks branched; stigma awl-shaped.—Stem erect, from two to three feet high. Perennial: flowers in July and August: grows in ditches and by the sides of lakes and pools: common. *Eng. Bot.* vol. xi. pl. 744. *Eng. Fl.* vol. iv. p. 74. 1282.

2. *S. simplex*. *Unbranched Bur-reed*. Leaves triangular at the base, with the sides nearly flat; common flower-stalk unbranched; stigma linear.—Stem erect, about two feet high. Perennial: flowers in July and August: grows in ditches, and by the sides of lakes and pools: frequent. *Eng. Bot.* vol. xi. pl. 745. *Eng. Fl.* vol. iv. p. 75. 1283.

3. *S. natans*. *Floating Bur-reed*. Leaves floating, flat; common flower-stalk unbranched; stigma egg-shaped, very short.—Stem a few inches above the water. Perennial: flowers in July: grows in pools, lakes, and rivers: common in Scotland. *Eng. Bot.* vol. iv. pl. 273. *Eng. Fl.* vol. iv. p. 75. 1284.

## 5. CA'REX. CAREX. SEDGE.

Barren flowers numerous, arranged in one or more, oblong, dense catkins, with scales imbricated all round. Calyx a lance-shaped, permanent chaff-scale. Corolla none. Filaments three, hair-like, longer than the scales; anthers linear, two-celled.

Fertile flowers numerous, arranged in one or more, oblong, dense catkins. Calyx a lance-shaped chaff-scale. Corolla a compressed, ribbed, permanent husk. Germen superior, roundish, three-cornered, smooth. Style one, terminal, cylindrical, short; stigmas three, awl-shaped, long, downy, deciduous. Seed roundish, three-cornered, loosely covered by the enlarged husk.—Named from *ceiro*, to cut. 424.

\* *Catkin solitary, simple.*

1. *C. dioica*. *Creeping dioecious Carex*. Spikes simple, dioecious; fruit egg-shaped, ascending, pointed, striated, rough at the edges; root creeping.—Four or five inches high: leaves keeled: scales of the catkins brown, with a green rib and white edges. Perennial: flowers in May and June: grows in boggy places: not uncommon. *Eng. Bot.* vol. viii. pl. 543. *Eng. Fl.* vol. iv. p. 77. 1285.

2. *C. Davalliana*. *Prickly Dioecious Carex*. Spikes simple, dioecious; fruit lance-shaped, deflected, beaked, ribbed, rough-edged near the top; root tufted.—Five or six inches high. Perennial: flowers in May and June: grows in marshy places: rare. Near Bath. *Eng. Bot.* vol. xxx. pl. 2123. *Eng. Fl.* vol. iv. p. 78. 1286.

3. *C. pulicaris*. *Flea Carex*. Spike simple; flowers of the upper half barren, of the lower fertile; fruit deflected, polished, tapering at both ends; stigmas two.—Straws from four to twelve inches high, slender, smooth. Perennial: flowers in June: grows in boggy places: common. *Eng. Bot.* vol. xv. pl. 1501. *Eng. Fl.* vol. iv. p. 78. 1287.

4. *C. rupestris*. *Rock Carex*. Spike linear, with a few fertile, lax flowers at the base; fruit inversely egg-shaped; stigmas three.—From three to eight inches high. Perennial: flowers in August: discovered in 1836, by Mr. Dickie, near Loch Callader, Aberdeenshire. Sutherland. *Brit. Fl.* 4th ed. p. 331. 1288.

5. *C. pauciflora*. *Few-flowered Carex*. Spikes simple, loose, few-flowered, the uppermost flowers barren; fruit deflected, awl-shaped, smooth; stigmas three.—From four to eight inches high, erect, furrowed: fruit pale-reddish. Perennial: flowers in June: grows in boggy places on high mountains: rare. Goatfell; Ben Nevis; Ben Lomond; Hill of Fare, Aberdeenshire: near Crag Lake, Northumberland. *Eng. Bot.* vol. xxix. pl. 2041. *Eng. Fl.* vol. iv. p. 79. 1289.

\*\* *Catkins or spikelets aggregate, each composed of barren flowers and fertile flowers. Stigmas two.*

6. *C. stellulata*. *Little prickly Carex*. Spikelets three or four, roundish, rather distant; barren flowers inferior; fruit spreading, egg-shaped, with a flat beak, rough at the edges.—Straw about eight inches high, triangular, with roughish edges: fruit brown. Perennial: flowers in May and June: grows in boggy heaths and meadows: common. *Eng. Bot.* vol. xii. pl. 806. *Eng. Fl.* vol. iv. p. 80. 1290.



7. *C. leporina*. *Hare's-foot Carex*. Spikelets three, rarely four, egg-shaped, contiguous; fruit elliptical, beaked, slightly convex, scarcely longer than the egg-shaped, blunt scales.—From four to eight inches high, smooth: leaves very narrow, shorter than the stem: spikelets brown: seeds pale-yellow. Perennial: flowers in July and August: found in 1836 by Mr. Dickie upon rocks on Lochnagar, Aberdeenshire. *Brit. Fl.* 4th ed. p. 332. 1291.

8. *C. curta*. *White Carex*. Spikelets about six, elliptical, somewhat distant; scales egg-shaped, membranous, small; fruit broadly egg-shaped, tumid, smooth.—Straw a foot high, three-cornered, rough at the upper part, spikelets silvery. Perennial: flowers in June: grows in watery places: not common. *Eng. Bot.* vol. xx. pl. 1386. *Eng. Fl.* vol. iv. p. 81. 1292.

9. *C. VahlII*. *Close-headed Alpine Carex*. Spikes three or four, oblong, aggregated, the terminal one with barren flowers at its base; stigmas three; fruit obovate, rough above with minute prickles, shortly beaked, longer than the egg-shaped obtuse calyx.—Straw six inches or more in height, triangular, rough on the angles. Discovered in 1830, among rocks, at the head of Loch Callader, in Braemar, by Dr. Greville, and described by him in *Eng. Bot. Suppl.* pl. 2666. *Eng. Fl.* p. 389. 1293.

10. *C. canescens*. *Hoary Carex*. Spikelets three or four, terminal, one barren at the base, fertile sessile, except the lowest which is on a short stalk; fruit egg-shaped, obtuse, two-toothed, rough, shorter than the scales.—Straw from one to two feet high, erect, leafy at the base: leaves straight, shorter than the stem: fruit green. Perennial: flowers in July: found by Mr. Moore on a small island in Lough Neagh, Ireland. *Brit. Fl.* 4th ed. p. 335. 1294.

11. *C. elongata*. *Elongated Carex*. Spikelets numerous, oblong, rather distant, without bractees; fruit between oblong and egg-shaped, tapering, cleft, ribbed, recurved, longer than the scales. Straw about a foot high: spikelets variegated with brown and green. Perennial: flowers in June: grows in marshes: rare. Found by Mr. J. Salt, at Aldwark, near Sheffield. Cheshire and Shropshire. *Eng. Fl.* vol. iv. p. 82. 1295.

12. *C. ovdli*. *Oval-spiked Carex*. Spikelets about six, oval, close together; barren flowers inferior; fruit lance-shaped, rough-edged, striated, as long as the lance-shaped scales.—Straw from twelve to eighteen inches high, with rough corners: spikelets greyish, each with a large egg-shaped scale at the base, the lowest with a bristle-shaped bractea. Perennial: flowers in June: grows in marshy places and wet meadows: common. *Eng. Bot.* vol. v. pl. 306. *Eng. Fl.* vol. iv. p. 82. 1296.

13. *C. remota*. *Remote Carex*. Spikelets several, nearly sessile, distant from each other; barren flowers inferior; bractees very long; fruit egg-shaped, obtuse at the edges, the beak slightly cleft.—Straw about a foot high, three-cornered above, with rough edges: spikelets yellowish. Perennial: flowers in May and June: grows in moist shady places. *Eng. Bot.* vol. xii. pl. 832. *Eng. Fl.* vol. iv. p. 84. 1297.

14. *C. axillaris*. *Axillar-clustered Carex*. Spikelets several, sessile, distant from each other; the lower ones compound, with very long bractees; fruit egg-shaped, its beak deeply cleft.—Resembling the last, but larger, with broader leaves. Perennial: flowers in June. Found by Mr. Curtis, near Putney; and at Ear-

sham, in Norfolk, by Mr. Woodward. Near Edinburgh. *Eng. Bot.* vol. xiv. pl. 993. *Eng. Fl.* vol. iv. p. 94. 1298.

15. *C. incurva*. *Curved Carex*. Spikelets crowded into a dense head; fertile flowers inferior; bractæas membranous; stem roundish, smooth, curved; leaves channelled.—Spikelets sessile, egg-shaped, brownish; straw about four inches high. Perennial: flowers in July and August: grows in sand along the coast; not uncommon in the North of Scotland. *Eng. Bot.* vol. xiii. pl. 927. *Eng. Fl.* vol. iv. p. 85. 1299.

16. *C. arenaria*. *Sea Carex*. Spikelets numerous, crowded into an oblong spike; upper ones barren, lower fertile; bractæas membranous, the lower ones leafy; stem three-cornered; leaves flat.—Root very long, creeping: straw from six inches to a foot high: spikes yellowish. This plant, like the *Arundo arenaria*, tends to fix the loose sand along the coasts. Perennial: flowers in June: grows on the sea-shore: common. *Eng. Bot.* vol. xiii. pl. 928. *Eng. Fl.* vol. iv. p. 85. 1300.

17. *C. intermedia*. *Soft Brown Carex*. Spikelets numerous, crowded into an oblong spike; the lower and terminal ones fertile; the intermediate barren; straw erect, three-cornered, rough on the angles.—Stems erect, about a foot high: spike rusty brown. Perennial: flowers in May and June: grows in marshy places: common. *Eng. Bot.* vol. xxix. pl. 2042. *Eng. Fl.* vol. iv. p. 86. 1301.

18. *C. divisa*. *Bracteated Marsh Carex*. Spike somewhat egg-shaped, once or twice compounded; spikelets with the fertile flowers inferior; bractæas leafy, erect; fruit broadly egg-shaped, acutely angular, with the point cleft; root creeping.—Straws erect, a foot high; spike dark-brown, about an inch long. Perennial: flowers in May and June: grows in marshes, chiefly near the sea: frequent. *Eng. Bot.* vol. xvi. pl. 1096. *Eng. Fl.* vol. iv. p. 87. 1302.

19. *C. muricata*. *Greater Prickly Carex*. Spike oblong, dense, compound; spikelets with the fertile flowers inferior; fruit spreading, egg-shaped, acutely angular, with a long, rough-edged cleft beak; root fibrous.—Straws a foot and a half high. Perennial: flowers in May and June: grows in marshes and gravelly pastures: frequent. *Eng. Bot.* vol. xvi. pl. 1097. *Eng. Fl.* vol. v. p. 88. 1303.

20. *C. divulsa*. *Grey Carex*. Spike elongated, loose; spikelets of its lower half finally very distant; fruit erect, smooth-edged, with a roughish cleft beak; root fibrous.—Straws twelve or eighteen inches high, acutely three-cornered, rough. Perennial: flowers in May: grows in moist shady pastures: frequent. *Eng. Bot.* vol. ix. pl. 629. *Eng. Fl.* vol. iv. p. 89. 1304.

21. *C. vulpina*. *Great Compound Prickly Carex*. Spike dense, oblong, obtuse, thrice-compound; fruit egg-shaped, acutely angular, spreading, with a rough-edged notched beak; corners of the straw very acute.—Straws two feet high, erect, the sides concave; spikelets egg-shaped, with the barren flowers uppermost. Perennial: flowers in May: grows in wet shady places, and by the edges of rivers and pools: frequent. *Eng. Bot.* vol. v. pl. 307. *Eng. Fl.* vol. iv. p. 90. 1305.

22. *C. teretiúscula*. *Lesser Clustered Carex*. Spike dense, twice or thrice compounded; spikelets egg-shaped, sterile at their extremity; fruit spreading, tumid at one side, with a tapering serrate beak; straw three-cornered, with convex sides.—Straws twelve

or eighteen inches high. Perennial: flowers in May: grows in wet meadows: not common. *Eng. Bot.* vol. xv. pl. 1065. *Eng. Fl.* vol. iv. p. 91. 1306.

23. *C. paniculata*. Spike thrice compound, loosely paniced, interrupted, acute; spikelets egg-shaped, sterile at their extremity; fruit spreading, with an abrupt serrate beak; straw acutely three-cornered, with flat sides.—Stem two or three feet high. Perennial: flowers in June: grows in wet meadows and marshy places: frequent. *Eng. Bot.* vol. xv. pl. 1064. *Eng. Fl.* vol. iv. p. 92. 1307.

\*\*\* *Barren flowers and fertile flowers in separate catkins; the barren catkin solitary. Bractæas membranous. Stigmas three.*

24. *C. digitata*. *Fingered Carex*. Bractæas membranous, sheathing; catkins linear, loose, erect, the barren one shortest; two or three fertile ones; leaves flat.—Straws six or eight inches high, sheathed at the base; leaves rough with reflected teeth towards the base, and smooth in the middle. Perennial: flowers in May: grows in woods and thickets, in England: rare. *Eng. Bot.* vol. ix. pl. 615. *Eng. Fl.* vol. iv. p. 93. 1308.

25. *C. clandestina*. *Dwarf Silvery Carex*. Bractæas membranous; fertile catkins distant from each other, few-flowered, inclosed in the sheathing bractæas; leaves channelled.—Straws from one to three inches high: catkins silvery. Perennial: flowers in May: grows on St. Vincent's Rocks, Bristol. *Eng. Bot.* vol. xxx. pl. 2124. *Eng. Fl.* vol. iv. p. 94. 1309.

\*\*\*\* *Barren flowers and fertile flowers in separate catkins; the barren catkin solitary. Bractæas leafy. Stigmas three.*

26. *C. pendula*. *Great Pendulous Carex*. Sheaths nearly as long as the flower-stalks; fertile catkins cylindrical, very long, drooping; fruit egg-shaped, with a notched beak, closely imbricated.—Straw from three to six feet high, three-cornered, leafy: catkins six or seven, greenish. Perennial: flowers in May and June: grows in moist shady places: not common. *Eng. Bot.* vol. xxxiii. pl. 2315. *Eng. Fl.* vol. iv. p. 95. 1310.

27. *C. strigosa*. *Loose Pendulous Carex*. Sheaths nearly as long as the flower-stalks; catkins slender, loose, slightly drooping; fruit lance-shaped, ribbed, slightly notched, loosely imbricated.—Straw two feet high. Perennial: flowers in May and June: grows in woods and thickets: rare. *Eng. Bot.* vol. xiv. pl. 994. *Eng. Fl.* vol. iv. p. 96. 1311.

28. *C. sylvestica*. *Pendulous Wood Carex*. Sheaths half as long as the flower-stalks; catkins slender, rather loose, drooping; fruit egg-shaped, with a long, beaked cleft point, ribless, triangular.—Straw two feet high, smooth, three-cornered. Perennial: flowers in May and June: grows in woods: common. *Eng. Bot.* vol. xiv. pl. 995. *Eng. Fl.* vol. iv. p. 96. 1312.

29. *C. depauperata*. *Starved Wood Carex*. Sheaths much shorter than the flower-stalks; fertile catkins distant, erect, of about three flowers; fruit inflated, nearly globular, ribbed, with a notched beak.—Straw about eighteen inches high, obtusely three-cornered, smooth. Perennial: flowers in May and June: grows in dry woods: rare. *Eng. Bot.* vol. xvi. pl. 1098. *Eng. Fl.* vol. iv. p. 97. 1313.

30. *C. phæostichya*. *Short brown-spiked Carex*. Sheaths shorter than the flower-stalks; fertile catkins two, distant, egg-shaped, erect; fruit egg-shaped, three-cornered, smooth, with a cleft beak; scales of the barren catkin pointed, of the fertile ones obtuse.—Stem five or six inches high, erect, furrowed, smooth. Perennial: flowers in June: grows in rocky places on the higher mountains of Scotland. *Eng. Bot. Suppl.* pl. 2731. *Eng. Fl.* vol. iv. p. 99. 1314.

31. *C. capillaris*. *Dwarf Hair-like Carex*. Common sheath much shorter than the drooping, hair-like flower-stalks; fertile catkins egg-shaped, rather loose, pendulous; fruit egg-shaped, three-cornered, pointed, ribless, membranous at the tip; root fibrous.—From two to four inches high. Perennial: flowers in July and August: grows on the higher mountains of Scotland. *Eng. Bot.* vol. xxix. pl. 2069. *Eng. Fl.* vol. iv. p. 100. 1315.

32. *C. rariflora*. *Loose-flowered Alpine Carex*. Sheaths very short, scarcely any; fertile catkins loose, drooping, few-flowered; fruit inversely egg-shaped, slightly pointed, ribless; root creeping.—Stems about six inches high. Perennial: flowers in July: grows at the head of a glen, called the Dole, in the Clova mountains, found there by Mr. G. Don. Sutherland. *Eng. Bot.* vol. xxv. pl. 2516. *Eng. Fl.* vol. iv. p. 100. 1316.

33. *C. Pseudo-cyperus*. *Cyperus-like Carex*. Sheaths scarcely any; fertile catkins dense, cylindrical, drooping, many-flowered; scales awl-shaped; fruit lance-shaped, spreading, furrowed, rough-edged, with a deeply cleft beak.—Stem about a foot high, with three sharp, rough corners. Perennial: flowers in June: grows in marshy places, and by rivers and lakes: not common. *Eng. Bot.* vol. iv. pl. 242. *Eng. Fl.* vol. iv. p. 101. 1317.

34. *C. limosa*. *Green and gold Carex*. Sheaths scarcely any; fertile catkins egg-shaped, dense, drooping, many-flowered; fruit broadly elliptical, compressed, ribbed, smooth-edged, without a beak; root creeping.—Stems about eight inches high, three-cornered, roughish. Perennial: flowers in July: grows in bogs and marshes: not common. *Eng. Bot.* vol. xxix. pl. 2043. *Eng. Fl.* vol. iv. p. 102. 1318.

35. *C. ustulata*. *Scorched Alpine Carex*. Sheaths very short; fertile catkins egg-shaped, dense, pendulous; fruit elliptical, compressed, rough-edged, with a cleft beak; root tufted, somewhat creeping.—Stem three or four inches high. Perennial: flowers in July: grows on the higher mountains of Scotland: very rare. *Eng. Bot.* vol. xxxiv. pl. 2404. *Eng. Fl.* vol. iv. p. 103. 1319.

36. *C. atrata*. *Black Carex*. Sheaths scarcely any; catkins stalked, egg-shaped, drooping, the terminal one with many barren flowers at the base; fruit elliptical, compressed, smooth, with a notched beak.—Stem about a foot high, three-cornered, smooth: catkins reddish-black. Perennial: flowers in June and July: grows on the higher mountains of Scotland. *Eng. Bot.* vol. xxix. pl. 2044. *Eng. Fl.* vol. iv. p. 103. 1320.

37. *C. pallescens*. *Pale Carex*. Sheaths scarcely any; fertile catkins cylindrical, stalked, somewhat drooping; fruit inversely egg-shaped, three-cornered, inflated, smooth, with a minute abrupt point.—Stems a foot or more high, acutely three-cornered; cat-

kins pale-green. Perennial: flowers in June: grows in wet meadows and marshy places: frequent. *Eng. Bot.* vol. xxxi. pl. 2185. *Eng. Fl.* vol. iv. p. 105. 1321.

38. *C. punctata*. Dotted-fruited *Carex*. Fertile catkins three, rarely four, cylindrical, erect; fruit egg-shaped, swelled, glabrous, dotted, of a light-green colour, with a linear beak with two teeth. —Stem from twelve to eighteen inches high, erect, and smaller than the next. Perennial: flowers in June: found in one or two places in North Wales. *Brit. Fl.* 4th ed. p. 338. 1322.

39. *C. flava*. Yellow *Carex*. Sheaths short, nearly as long as the flower-stalks; fertile catkins roundish, egg-shaped; fruit three-cornered, smooth, with a long curved beak, notched at the end. —Stem about a foot high, nearly smooth, catkins yellowish. Perennial: flowers in May and June: grows in bogs and wet meadows: common. *Eng. Bot.* vol. xviii. pl. 1294. *Eng. Fl.* vol. iv. p. 106. 1323.

40. *C. fulva*. Tawny *Carex*. Sheaths elongated, shorter than the flower-stalks; fertile catkins egg-shaped, erect; scales pointless; fruit egg-shaped, three-cornered, smooth, with a strait, rough-edged, cleft beak. —Straw twelve or fifteen inches high, three-cornered, acute and rough above. Perennial: flowers in June and July: grows in boggy places. *Eng. Bot.* vol. xviii. pl. 1295. *Eng. Fl.* vol. iv. p. 107. A variety of this plant, with three fertile spikes on longer stalks, and the beak of the fruit smoother, with a more distinct membranous orifice, is the *C. speirostachya*, Dense short-spiked *Carex*. *Eng. Bot. Suppl.* pl. 2770. *Eng. Fl.* vol. iv. p. 98. 1324.

41. *C. extensa*. Long-bracteated *Carex*. Sheaths and flower-stalks very short; bracteas very long and spreading; fertile catkins oblong, near to each other; fruit egg-shaped, three-cornered, with a short, smooth, cleft beak; straw very smooth. —About a foot high: leaves very long, narrow, recurved. Perennial: flowers in June: grows in marshes on the sea-coast: rare. *Eng. Bot.* vol. xii. pl. 833. *Eng. Fl.* vol. iv. p. 108. 1325.

42. *C. distans*. Loose *Carex*. Sheaths elongated, nearly as long as the flower-stalks; fertile catkins two or three, oblong, widely distant; scales pointed; straw smooth. —Twelve or eighteen inches high: leaves lance-shaped, flat. Perennial: flowers in June: grows in marshes and wet meadows. *Eng. Bot.* vol. xviii. pl. 1234. *Eng. Fl.* vol. iv. p. 109. 1326.

43. *C. binervis*. Green-ribbed *Carex*. Sheaths elongated, shorter than the flower-stalks; fertile catkins cylindrical, distant, partly compound; scales pointed; straw smooth; fruit egg-shaped, with a central keel and two distant marginal ribs. —About two feet high: leaves lance-shaped, flat. Perennial: flowers in June: grows on dry heaths: frequent. *Eng. Bot.* vol. xviii. pl. 1235. *Eng. Fl.* vol. iv. p. 110. 1327.

44. *C. præcox*. Early *Carex*. Sheaths very short, about as long as the flower-stalks; catkins elliptical, rather close; scales of the fertile ones pointed; fruit inversely egg-shaped, downy, with an abrupt, entire point. —Straws from three inches to nearly a foot high, three-cornered, smooth: bracteas short, very narrow. Perennial: flowers in April: grows on heaths and in dry pastures: common. *Eng. Bot.* vol. xvi. pl. 1099. *Eng. Fl.* vol. iv. p. 111. 1328.

45. *C. pilulifera*. *Round-headed Carex*. Sheaths none; catkins two or three, sessile, crowded, nearly globular; scales pointed; fruit three-cornered, roundish, downy, with a short cleft beak.—Straws about a foot high, slender, curved, three-cornered, rough at the top. Perennial: flowers in May and June: grows on wet heaths: common. *Eng. Bot.* vol. xiii. pl. 885. *Eng. Fl.* vol. iv. p. 112. 1329.

46. *C. tomentosa*. *Large Downy-fruited Carex*. Sheaths hardly any; fertile catkins one or two, nearly sessile, cylindrical, obtuse, with acute scales; fruit globular, slightly three-cornered, covered with close down, and having a short cleft beak.—Straws a foot or more high, erect, three-cornered, rough at the top. Perennial: flowers in June. Found by Mr. R. Teesdale, near Merston Measy, Wiltshire. *Eng. Bot.* vol. xxix. pl. 2046. *Eng. Fl.* vol. iv. p. 113. 1330.

47. *C. panicea*. *Pink-leaved Carex*. Sheaths elongated, about half as long as the flower-stalks; fertile catkins one or two, distant, the lower one rather loose; fruit somewhat globular, smooth, beakless.—Stem about a foot high, smooth, obtusely three-cornered, erect. Perennial: flowers in June: grows in meadows and marshy places: common. *Eng. Bot.* vol. xxi. pl. 1505. *Eng. Fl.* vol. iv. p. 114. 1331.

48. *C. recurva*. *Glaucous Heath Carex*. Sheaths short, scarcely any; fertile catkins cylindrical, drooping, on very long, recurved stalks; fruit elliptical, three-cornered, roughish, obtuse, slightly notched.—Straw about a foot high, erect. Perennial: flowers in May and June: grows in moist meadows and heaths: common. *Eng. Bot.* vol. xxi. pl. 1506. *Eng. Fl.* vol. iv. p. 114. 1332.

\*\*\*\*\* *Barren flowers and fertile flowers in separate catkins; the barren catkin solitary; bractæas leafy; stigmas two.*

49. *C. pulla*. *Russet Carex*. Sheaths none; fertile catkins egg-shaped, the lower one stalked; fruit broadly elliptical, with a short notched beak.—Straw six or eight inches high: catkins dark-brown. Perennial: flowers in May and June: grows on the higher mountains of Scotland: rare. *Eng. Bot.* vol. xxix. pl. 2045. *Eng. Fl.* vol. iv. p. 104. 1333.

50. *C. cæspitosa*. *Tufted Bog Carex*. Sheaths none; fertile catkins cylindrical, obtuse, erect; bractæas lobed at the base; fruit broadly elliptical, flat, ribbed, with a very short abrupt beak.—Straw from six to twelve inches high, three-cornered, rough at the end. Perennial: flowers in May and June: grows in marshy places: common. *Eng. Bot.* vol. xxi. pl. 1507. *Eng. Fl.* vol. iv. p. 117. 1334.

51. *C. rigida*. *Rigid Carex*. Sheaths none; fertile catkins egg-shaped, the lowermost stalked; bractæas lanceolate, recurved, as are the leaves; fruit triangular, with a short abrupt beak.—Root creeping: stems rigid, from three to six inches high, triangular, the angles rough above. Perennial: flowers in June and July: grows on the summits of high mountains: frequent. *Eng. Bot.* vol. xxix. pl. 2047. *Eng. Fl.* vol. iv. p. 116. 1335.

52. *C. stricta*. *Glaucous straight-leaved Carex*. Sheaths none; fertile catkins cylindrical, elongated, acute, nearly sessile; bractæas with small lobes at the base; fruit elliptical, flat, with a short cleft beak.—Straw two feet high, acutely three-cornered, rough at the top: leaves erect, the lower ones torn and reticulated at the base. Perennial: flowers in April and May: grows in marshy

places : not uncommon. *Eng. Bot.* vol. xiii. pl. 914. *Eng. Fl.* vol. iv. p. 119. 1336.

\*\*\*\*\* *Barren flowers and fertile flowers in separate catkins.*  
*Barren catkins two or more.*

53. *C. aquatilis*. *Straight-leaved Water Carex*. Stigmas two; sheaths none; catkins cylindrical, elongated, attenuated below, with barren flowers at the extremity; fruit inversely egg-shaped, with a short entire point. — Straws from one to two feet high; leaves long, straight, linear, not fibrous at the base. Perennial: flowers in July and August: grows in boggy ground in the Clova mountains, Forfarshire. *Eng. Bot. Suppl.* pl. 2758. *Brit. Fl.* 4th ed. p. 336. 1337.

54. *C. acuta*. *Slender-spiked Carex*. Stigmas two; sheaths none; catkins cylindrical, slender; fruit elliptical, with an obtuse, undivided point. — Straws two or three feet high, with rough angles: leaves broad, rough on the edges and keel. Perennial: flowers in May: grows about ditches, pools, and rivers: common. *Eng. Bot.* vol. ix. pl. 580. *Eng. Fl.* vol. iv. p. 119. 1338.

55. *C. paludosa*. *Lesser Common Carex*. Sheaths none, bracteas very long, leafy; catkins cylindrical, erect, obtuse, the fertile ones with long-pointed scales; fruit egg-shaped, three-cornered, compressed, with a notched beak. — Straw two or three feet high, with rough corners: leaves broad, rough on the edges and keel. Perennial: flowers in May: grows in marshes and about the edges of ditches, pools, and rivers: common. *Eng. Bot.* vol. xii. pl. 807. *Eng. Fl.* vol. iv. p. 120. 1339.

56. *C. riparia*. *Great Common Carex*. Sheaths none; bracteas very long, leafy; catkins erect, cylindrical, with long-pointed scales; fruit egg-shaped, tumid, with a deeply-cleft beak. — Straw three or more feet high, erect, with very rough, sharp corners: leaves broad, erect, rough on the keel and edges. Perennial: flowers in April and May: grows at the edges of pools, ditches, and slow rivers. *Eng. Bot.* vol. ix. pl. 579. *Eng. Fl.* vol. iv. p. 121. 1340.

57. *C. laxigata*. Sheaths elongated, shorter than the flower-stalks; catkins cylindrical, fertile ones drooping; scales pointed; fruit egg-shaped, three-cornered, with a cleft beak. — Straws from two to four feet high, three-cornered. Perennial: flowers in June: grows in marshy places: frequent. *Eng. Bot.* vol. xx. pl. 1387. *Eng. Fl.* vol. iv. p. 122. 1341.

58. *C. vesicaria*. *Large-fruited Bladder Carex*. Sheaths none; fertile catkins cylindrical, short, abrupt, on short stalks; scales lance-shaped, acute; fruit inversely egg-shaped, inflated, with a long cleft point. — Straw two feet high, erect, with very sharp rough corners. Perennial: flowers in May: grows in marshes and wet meadows: frequen. *Eng. Bot.* vol. xi. pl. 779. *Eng. Fl.* vol. iv. p. 123. 1342.

59. *C. ampullacea*. *Small-fruited Bladder Carex*. Sheaths none; fertile catkins cylindrical, elongated, nearly sessile; scales lance-shaped, acute; fruit globular, inflated, with a slender cleft beak. — Straw from one to two feet high, with obtuse corners, rough at the top. Perennial: flowers in May: grows in bogs and marshes: common. *Eng. Bot.* vol. xi. pl. 780. *Eng. Fl.* vol. iv. p. 124. 1343.

60. *C. hirta*. *Hairy Carex*. Hairy; sheaths elongated, nearly as long as the flower-stalks; fertile catkins short, cylindrical, distant;

scales awned; fruit tumid, hairy, with a deeply cleft beak; straw rough-edged.—Straw two feet high, the whole plant covered with fine soft hairs. Perennial: flowers in May and June: grows in wet pastures and woods: common. *Eng. Bot.* vol. x. pl. 685. *Eng. Fl.* vol. iv. p. 125. 1344.

61. *C. filiformis*. *Slender-leaved Carex*. Sheaths scarcely any; fertile catkins egg-shaped; fruit egg-shaped, hairy, the beak deeply cleft; leaves linear, channelled, smooth.—Root creeping: stem erect, two feet high, round, or triangular: leaves erect, rough on the edges. Perennial: flowers in June: grows in wet meadows and bogs: rare. *Eng. Bot.* vol. xiii. pl. 904. *Eng. Fl.* vol. iv. p. 128. 1345.

#### 6. ELYNA. \*ELYNA.

**Barren Flower.** Calyx the inner scales of a catkin, each oblong, one-flowered, permanent, sometimes wanting. Corolla none. Filaments three, hair-like, erect, longer than the calyx; anthers linear, erect, two-celled.

**Fertile Flower.** Calyx the outer scales of the same catkin, rather larger, involute, sheathing, oblong, one-flowered, permanent. Corolla none. Germen superior, three-cornered. Style one, short, cylindrical; stigmas three, tapering, spreading, downy. Seed one, loosely covered by the permanent scale, three-cornered, pointed, hard.—Name from *elyo*, to involve. 425.

1. *E. caricina*. *Compound-headed Elyna*. Catkins crowded, alternate.—Roots fibrous: stems sheathed at the base with the old leaves, erect, striated, from three to five inches high, rough-edged at the top: leaves radical, linear, acute, channelled, rough-edged: catkins four or five, alternate, brown, crowded with an egg-shaped, erect spike. Perennial: flowers in August: grows in muddy places on mountains in the north of England: rare. *Eng. Bot.* vol. xx. pl. 1410. *Eng. Fl.* vol. iv. p. 129. 1346.

### TETRANDRIA.

#### 7. LITTORE'LLA. SHORE-WEED.

**Barren Flowers.** Calyx of four egg-shaped, acute, erect leaves. Corolla of one petal, tubular, with the limb deeply divided into four equal, egg-shaped, acute segments. Filaments hair-like, very long; anthers heart-shaped, two-celled.

**Fertile Flowers.** Calyx none. Corolla of one petal, membranous, permanent, deeply divided into four unequal, acute segments. Germen superior, oblong, very small. Style thread-shaped, very long, erect; stigma simple, acute.—Nut oval, one-celled, not opening. Seed solitary.—Named from *littus*, the shore. 426.

1. *L. lacustris*. *Plantain Shore-weed*.—Root fibrous: stem none: leaves linear, fleshy, semi-cylindrical, two or three inches long. Perennial: flowers in June: grows about the edges of lakes and pools: frequent. *Eng. Bot.* vol. vii. pl. 468. *Eng. Fl.* vol. iv. p. 130. 1347.



## 8. ALNUS. ALDER.

Barren Flowers numerous, in a loose cylindrical catkin, imbricated all round. Calyx a wedge-shaped scale, three-flowered, with two very minute lateral scales. Corolla of three equal florets, attached to the inner side of each scale, each of one petal, deeply divided into four equal, egg-shaped, obtuse segments. Filaments four, arising from the tube of the corolla, shorter than its segments; anthers roundish, two-lobed.

Fertile Flowers fewer, in an oval catkin, imbricated all round. Calyx a wedge-shaped, two-flowered scale. Corolla none. Germen compressed, two-celled. Styles two, parallel, bristle-shaped, deciduous; stigma simple. Nut egg-shaped, hard, compressed, angular, two-celled. Kernel solitary, egg-shaped, acute.—Name, Celtic, from *al*, near, and *lan*, a river bank.

427.

1. *A. glutinosa*. *Common Alder*. Leaves roundish, wedge-shaped, waved, serrate, glutinous, downy at the branching of the veins beneath.—A low tree, with rugged bark, and crooked, spreading, smooth branches: barren catkins long, pendulous; fertile ones short, oval. The wood is hard and brittle, of a reddish colour, and lasts long under water. The bark dyes red, and with copperas, black. Flowers in March: grows in wet places, by the sides of rivers: common. *Eng. Bot.* vol. xxi. pl. 1508: *Betula Abnus*. *Eng. Fl.* vol. iv. p. 132.

1348.

## 9. BUXUS. BOX-TREE.

Barren Flowers. Calyx of three roundish, concave, spreading leaves. Petals two, roundish, concave, spreading. Filaments four, awl-shaped, spreading, about the length of the petals; anthers two-lobed. A rudiment of a germen.

Fertile Flowers from the same bud. Calyx inferior, of four roundish, concave, spreading, permanent leaves. Petals three, roundish, larger than the calyx. Germen nearly globular, with three obtuse angles or lobes. Styles three, short, thick, permanent; stigma obtuse, rough. Capsule globular, with three spreading beaks, three-celled, three-valved. Seeds two in each cell, oblong.—Name from *pyxos*, of the Greeks.

428.

1. *B. sempervirens*. *Common Box-tree*. Leaves egg-shaped, convex.—A small tree, with shining leaves and pale-yellow flowers. Its hard, close, yellowish wood is employed in making mathematical instruments, and for wood engraving. Flowers in April: grows on dry hills in the south of England. *Eng. Bot.* vol. xix. pl. 1341. *Eng. Fl.* vol. iv. p. 133.

1349.

## 10. URTICA. NETTLE.

Barren Flower. Calyx of four, roundish, concave, equal leaves. Petals none. Nectary central, cup-shaped. Filaments four, awl-shaped, spreading, as long as the calyx; anthers roundish, two-lobed.

Fertile Flower. Calyx inferior, of two roundish, equal leaves. Corolla none. Germen egg-shaped. Style none; stigma downy. Seed one, naked, egg-shaped, somewhat compressed, polished,

embraced by the permanent calyx. — Name from *uro*, to burn. 429.

1. *U. Dodartii*. *Dodart's Nettle*. Leaves opposite, between egg-shaped and lance-shaped, nearly entire; fertile flowers in globular heads, stalked; seed nearly smooth. — Stems erect, cylindrical, hollow, two to three feet high: stipules small, narrowly lanceolate: seed smooth and shining, brown, with numerous dark-purple dots. Perennial: flowers in June and July: grows in waste ground in several parts of England, but rare. First distinguished as British by Mr. Babington, in *Annals of Natural History*, vol. i. p. 197. 1350.

2. *U. pilulifera*. *Roman Nettle*. Leaves opposite, broadly egg-shaped or heart-shaped, coarsely toothed; fertile flowers in stalked, globular heads; seeds with rough tubercles on their surface. — Stems erect, bluntly four-cornered: leaves larger than in the preceding, and on longer and thicker stalks: stipules between oblong and egg-shaped, broader than in the preceding: seed dark-brown, with numerous darker prominent points. Perennial: flowers in June and July: grows in waste ground, chiefly near the sea: rare. Norfolk and Suffolk. *Eng. Bot.* pl. 148. *Eng. Fl.* vol. iv. p. 134. 1351.

3. *U. urens*. *Small Nettle*. Leaves opposite, broadly elliptical, with about five longitudinal ribs; clusters nearly simple. — From one to two feet high, bright-green, with venomous stings. Annual: flowers from June to October: grows in cultivated ground, and waste places. *Eng. Bot.* vol. xviii. pl. 1236. *Eng. Fl.* vol. iv. p. 134. 1352.

4. *U. dioica*. *Great Nettle*. Leaves opposite, heart-shaped; clusters much branched, in pairs, mostly diœcious. — From two to four feet high, dull-green, with venomous stings. The fibres of the stem may be used like hemp. The young leaves are boiled along with oatmeal in the Hebrides. Perennial: flowers in July and August: grows in waste places and by road-sides: common. *Eng. Bot.* vol. xxv. pl. 1750. *Eng. Fl.* vol. iv. p. 135. 1353.

# 11. ERIOCAULON. PIPEWORT.

Flowers arranged in a compact scaly head.

Barren Flower in the middle. Calyx none. Corolla of one petal, with a cylindrical tube, the limb divided into four or six segments, in a double row. Filaments four or six, thread-shaped, erect; anthers roundish, two-celled.

Fertile Flowers in the circumference. Calyx none. Corolla of four or six petals, in a double row. Germen superior, two- or three-lobed. Style one, very short; stigmas two or three, awl-shaped. Capsule two- or three-lobed, with as many cells and valves. Seeds solitary, globular. — Name from *erion*, wool, and *caulos*, a stem. 430.

1. *E. septangulare*. *Jointed Pipewort*. Stem seven-cornered, much longer than the compressed, cellular, taper-pointed leaves; outer scales without flowers, smooth, the inner scales and corolla fringed at the extremity. — Roots of numerous long, white, jointed fibres: leaves forming a tuft, two or three inches long: stalks slender, from six to ten inches long, with a solitary, globular, white head. Perennial: flowers in September: grows in several lakes in the islands of Skye and Coll. *Eng. Bot.* vol. xi. pl. 733. *Eng. Fl.* vol. iv. p. 140. 1354.

## PENTANDRIA.

## 12. XANTHIUM. BUR-WEED.

Barren Flower compound. Common calyx of many imbricated, equal scales.\* Compound corolla hemispherical, uniform; florets of one petal, funnel-shaped, with five equal, marginal segments. Filaments five in each floret, parallel, forming a cylinder; anthers erect, parallel, not united. Common receptacle scarcely any, the florets being separated by scales.

Fertile Flowers beneath the others. Common calyx two-flowered, formed of two opposite, acutely three-lobed leaves, covered with hooked prickles, and united to the germen. Corolla none. Germen oval. Styles two pairs, hair-like; stigmas simple. Drupe formed of the permanent prickly calyx. Nut two-celled. Seeds solitary.—Name from *xanthos*, yellow. 431.

1. *X. strumarium*. *Broad-leaved Bur-weed*. Prickles none; leaves heart-shaped, three-ribbed at the base.—Stem two feet high, erect, branched, furrowed, leafy: leaves stalked, lobed, and doubly serrate. Annual: flowers in August and September: grows in dunghills and in rich ground, in the south of England: rare, and not indigenous. *Eng. Bot.* vol. xxxvi. pl. 2544. *Eng. Fl.* vol. iv. p. 136. 1355.

## 13. AMARANTHUS. AMARANTH.

Barren Flowers. Calyx of three or five erect, lance-shaped, coloured leaves. Corolla none. Filaments three or five, hair-like, erect, as long as the calyx; anthers oblong, two-lobed.

Fertile Flowers in the same cluster. Calyx of three or five erect, lance-shaped, coloured leaves. Corolla none. Germen superior, egg-shaped. Styles three, sometimes two; stigma acute, downy on the upper side. Capsule egg-shaped, one-celled. Seed solitary, globular, filling the capsule.—Name from *a*, not, and *maraino*, to fade. 432.

1. *A. Blitum*. *Wild Amaranth*. Flowers three-cleft, with three stamens; leaves egg-shaped; stem spreading.—Stems branched, round, furrowed, leafy: leaves roughish on the edges: flowers green, in small axillar, leafy clusters. Annual: flowers in August: grows on dunghills and in rich ground, in the south of England: the outcast of gardens: rare. *Eng. Bot.* vol. xxxi. pl. 2212. *Eng. Fl.* vol. iv. p. 137. 1356.

## 14. BRYONIA. BRYONY.

Barren Flowers. Calyx of one leaf, bell-shaped, with five acute teeth. Corolla bell-shaped, with five egg-shaped, spreading segments. Filaments three, short; anthers five; two together on two of the filaments.

Fertile Flowers. Calyx and corolla as in the barren flower. Germen inferior. Style three-cleft, shorter than the corolla; stigmas cleft, spreading. Berry roundish, smooth, with two or more cells. Seeds in pairs, roundish.—Named from *bruo*, to shoot, or grow rapidly. 433.

1. *B. dióica*. *Red-berried Bryony*. Leaves palmate, rough on both sides; barren flowers and fertile flowers on separate plants.—Stems several feet long, climbing by their tendrils: leaves large, five-lobed: flowers white, veined with green, in axillar panicles: berries scarlet. The root is acrid and purgative. Perennial: flowers from May to September: grows in hedges and thickets, in England: frequent. *Eng. Bot.* vol. vii. pl. 439. *Eng. Fl.* vol. iv. p. 138. 1357.

## POLYANDRIA.

### 15. CERATOPHYLLUM. HORNWORT.

Barren Flowers. Calyx deeply divided into many oblong, equal, erect, permanent segments. Corolla none. Filaments twice as many as the segments of the calyx, from sixteen to twenty, very short; anthers oblong, erect, longer than the calyx.

Fertile Flowers. Calyx and corolla as in the barren flowers. Germen superior, egg-shaped, compressed. Style none; stigma oblong. Drupe egg-shaped, compressed, crowned with the permanent stigma. Nut large, of the shape of the drupe.—Name from *ceras*, a horn, and *phyllon*, a leaf. 434.

1. *C. demersum*. *Common Hornwort*. Fruit armed with three thorns; segments of the calyx notched at the end.—Two or three feet long, dark-green, with numerous whorled leaves, repeatedly divided into linear segments. Perennial: flowers in August and September: grows under water, in ditches, lakes, and slow rivers: frequent. *Eng. Bot.* vol. xiv. pl. 947. *Eng. Fl.* vol. iv. p. 141. 1358.

2. *C. submersum*. *Unarmed Hornwort*. Fruit thornless; segments of the calyx acute, entire.—Resembles the former. Perennial: flowers in September: grows in ditches in the east and south of England: rare. *Eng. Bot.* vol. x. pl. 679. *Eng. Fl.* vol. iv. p. 142. 1359.

### 16. MYRIOPHYLLUM. WATER-MILFOIL.

Barren Flowers. Calyx of four oblong, erect leaves, the outer largest. Petals four, inversely egg-shaped. Filaments eight, hair-like, longer than the calyx; anthers oblong.

Fertile Flowers beneath the others. Calyx and corolla the same. Germens four, inferior, oblong. Styles none; stigmas downy. Drupes four, oblong. Nuts solitary, with a hard shell, containing a single kernel.—Name from *myrios*, a myriad, and *phyllon*, a leaf. 435.

1. *M. spicatum*. *Spiked Water-milfoil*. Flowers in whorled, interrupted, leafless spikes.—Stem slender, branched, round, several feet long, with finely pinnatifid, spreading leaves, four together in a whorl: petals reddish. Perennial: flowers in July and August: grows under water, in ditches, pools, lakes, and rivers: frequent. *Eng. Bot.* vol. ii. pl. 83. *Eng. Fl.* vol. iv. p. 143. 1360.

2. *M. verticillatum*. *Whorled Water-milfoil*. Flowers axillar.—Stem several feet high, the flowering part of the stem or branches

rising above the water: petals small, white. Perennial: flowers in July: grows in ditches and ponds, in England and Wales: not common. *Eng. Bot.* vol. iv. pl. 218. *Eng. Fl.* vol. iv. p. 143. 1361.

#### 17. SAGITTARIA. ARROW-HEAD.

**Barren Flowers** numerous. Calyx of three egg-shaped, permanent leaves. Corolla of three roundish, spreading, deciduous petals, thrice the size of the calyx. Filaments numerous, about twenty-four, awl-shaped, collected into a round head; anthers heart-shaped, much shorter than the petals.

**Fertile Flowers** fewer, below the others. Calyx and corolla as above. Germens numerous, collected into a head, compressed, bulging externally, tapering into very short styles. Stigmas acute, permanent. Seeds numerous, inversely egg-shaped, compressed, margined.—Named from *sagitta*, an arrow. 436.

1. *S. sagittifolia*. *Common Arrow-head*. Leaves arrow-shaped, acute.—Leaves all from the root, on long cellular stalks: flowers white, three in a whorl. Perennial: flowers in July: grows in ditches and at the edges of pools and rivers, in England and Ireland: frequent. *Eng. Bot.* vol. ii. pl. 84. *Eng. Fl.* vol. iv. p. 144. 1362.

#### 18. ARUM. ARUM.

Common calyx of one erect, sheathing, oblong leaf, convolute at the base, converging at the top, compressed in the middle. coloured within, containing the flowers arranged upon a common stalk, the latter terminating in a coloured, naked appendage. Corolla none.

**Barren Flowers**. Filaments numerous, very short, arranged in several close rows round the stalk, within the convoluted part of the calyx, surmounted at a little distance above by a ring of pointed, antherless filaments; anthers two-lobed.

**Fertile Flowers**. Germens sessile, inversely egg-shaped, in a dense ring round the lower part of the stalk, at a small distance below the barren flowers. Styles none; stigma downy. Berry globular, juicy, one-celled. Seeds several, roundish.—Name of doubtful origin. 437.

1. *A. maculatum*. *Cuckoo-pint*. *Wake Robin*. Stem none; leaves halberd-shaped, entire; common-stalk of the flowers club-shaped, obtuse.—Root tuberous: leaves stalked, spotted with black: berries scarlet. The root, when dried, affords a nutritious flour, fit for making bread. Perennial: flowers in May: grows in bushy places, hedges, and the borders of fields. *Eng. Bot.* vol. xix. pl. 1298. *Eng. Fl.* vol. iv. p. 146. 1363.

#### 19. POTERIUM. SALAD-BURNET.

**Barren Flowers**. Calyx of three egg-shaped, spreading, coloured, deciduous leaves. Corolla of one petal, tubular, deeply divided into four egg-shaped, spreading, permanent segments. Filaments numerous, from thirty to fifty, hair-like, much longer than the corolla; anthers roundish, two-lobed.

Fertile Flowers above the others. Calyx as above. Corolla of one petal, wheel-shaped; tube short, closed at the mouth; limb with four deep, egg-shaped, reflected, permanent segments. Germens one or two, oblong, two-celled, crowned with a hair-like, coloured style, much longer than the corolla. Stigma rayed, coloured. Nut invested by the dry tube of the corolla, one or two-celled. Kernels oval, solitary.—Name from *poterium*, a drinking cup. 438.

1. *P. Sangvisórba. Salad-Burnet.* Thornless, stem somewhat angular.—Stems from one to two feet high, smooth, branched: leaves pinnate, with an odd leaflet: heads of purple flowers, globular. Perennial: flowers in July: grows in dry pastures: frequent. *Eng. Bot.* vol. xii. pl. 860. *Eng. Fl.* vol. iv. p. 147. 1364.

## 20. QUERCUS. OAK.

Barren Flowers in a loose catkin, deciduous. Calyx a scale of one leaf, deeply divided into several segments. Corolla none. Filaments eight or more, awl-shaped, short; anthers roundish, two-lobed.

Fertile Flowers in separate catkins. Calyx double; the outer inferior, hemispherical, leathery, one-flowered, entire, becoming enlarged and externally scaly or tuberculated; the inner superior, of one leaf, with six minute downy segments, closely surrounding the base of the style. Corolla none. Germen one, below the inner calyx, globular, three-celled, with rudiments of six seeds. Nut solitary, oval, leathery, one-celled. Kernel solitary, rarely two.—Name, Celtic, from *quer*, beautiful, and *cuez*, a tree. 439.

1. *Q. Robur. Common Oak.* Leaves deciduous, oblong, dilated towards the end, sinuated and lobed, the sinuses rather acute, the lobes obtuse; fruit-stalks elongated.—A large tree, with round spreading branches: in the Highlands of Scotland, where it is abundant in an indigenous state, it seldom attains a large size: the uses of the wood and bark are well known. Flowers in April: grows in natural woods, in the uncultivated parts of the country. *Eng. Bot.* vol. xix. pl. 1342. *Eng. Fl.* vol. iv. p. 273. 1365.

2. *Q. sessiliflora. Sessile-fruited Oak.* Leaves deciduous, oblong, on elongated stalks, with opposite acute sinuses; fruit sessile.—This species is distinguished from the former by its more regularly sinuated leaves and sessile fruit: the wood is said to be much inferior, but this appears to be erroneous. Flowers in April: grows in woods. *Eng. Bot.* vol. xxvi. pl. 1845. *Eng. Fl.* vol. iv. p. 150. 1366.

## 21. FAGUS. BEECH. CHESTNUT.

Barren Flowers in a roundish or cylindrical catkin. Calyx of one leaf, divided into five or six segments. Corolla none. Filaments from five to twenty, hair-like, longer than the calyx; anthers roundish or oblong, two-lobed.

Fertile Flowers stalked. Calyx double; the outer inferior, leathery, externally prickly, with four, five, or six deep seg-

ments, containing two or three flowers; the inner superior, of one leaf, with five or six deep segments, internally woolly. Corolla none. Germens two or three, below the inner calyx, egg-shaped, compressed or angular, three or six-celled, with rudiments of two seeds in each cell. Styles three or six, short; stigmas oblong, undivided, permanent. Nuts two or three, egg-shaped, more or less angular, leathery, one-celled, attached to the base of the outer calyx, and crowned by the upper. Kernels one, two, or three.—Name from *phago*, to eat. 440.

1. *F. Castanea*. *Chestnut Tree*. Leaves lance-shaped, acutely serrate, smooth beneath; prickles of the calyx compound and entangled; stigmas six.—A large tree, with widely spreading branches. The wood is used for the same purpose as oak. The kernels are wholesome and agreeable. Flowers in May: grows in woods in the south of England: frequent. *Eng. Bot.* vol. xiii. pl. 886. *Eng. Fl.* vol. iv. p. 151. 1367.

2. *F. sylvatica*. *Common Beech*. Leaves egg-shaped, indistinctly serrate, smooth; prickles of the outer calyx simple; stigmas three.—A large tree, with smooth bark and spreading branches. The nuts fatten hogs, and are eaten by squirrels, wood-pigeons, and other wild animals. Flowers in April and May: grows in woods: common. *Eng. Bot.* vol. xxvi. pl. 1846. 1368.

## 22. BETULA. BIRCH.

**Barren Flowers.** Catkin cylindrical, loose, imbricated all round, with ternate, concave scales, the middle one largest, egg-shaped. Corolla none. Filaments from ten to twelve, shorter than the scale; anthers roundish, two-lobed.

**Fertile Flowers.** Catkin cylindrical, dense; scales peltate, dilated outwards, three-lobed, three-flowered. Corolla none. Germen compressed, bordered, two-celled. Styles two, awl-shaped, downy; stigmas simple. Nut oblong, deciduous, winged, one-celled. Kernel solitary.—Name, from *betu*, Celtic for birch. 441.

1. *B. alba*. *Common Birch*. Leaves egg-shaped, acute, unequally serrate, nearly smooth.—A rather tall tree, with a white cuticle, peeling transversely, the twigs very slender and more or less drooping. The wood is hard and white. Flowers in April and May: grows abundantly in extensive natural woods in the Highlands of Scotland, as well as in other parts of the country. *Eng. Bot.* vol. xxxi. pl. 2198. *Eng. Fl.* vol. iv. p. 153. 1369.

2. *B. nana*. *Dwarf Birch*. Leaves round, crenate, reticulated with veins beneath.—A shrub rarely exceeding two feet in height. Grows on the sides of some of the higher Scottish mountains, as Ben Lawers and the Braemar mountains. *Eng. Bot.* vol. xxxiii. pl. 2326. *Eng. Fl.* vol. iv. p. 154. 1370.

## 23. CARPINUS. HORNBEAM.

**Barren Flowers.** Catkin cylindrical, loose, imbricated all round, with egg-shaped, acute, fringed, single-flowered scales, accompanied by three smaller inner ones. Corolla none. Fila-

ments ten or more, hair-like, much shorter than the scale; anthers roundish, two-lobed.

Fertile Flowers in a bracteated cluster. Calyx double; the outer inferior, of several oblong, unequal, erect, deciduous, two- or three-flowered scales; the inner superior, deeply divided into three erect, acute, permanent segments. Corolla none. Germen egg-shaped, crowned by the inner calyx. Styles very short, permanent; stigmas two, awl-shaped, erect, deciduous. Nut egg-shaped, angular, leathery, one-celled, crowned by the inner calyx and the base of the style. Kernel one.—Name, *car*, wood, and *pin*, a head, in Celtic. 442.

1. *C. Bétulus*. *Common Hornbeam*. Bracteas of the fruit flat, oblong, serrated, with two lateral lobes.—A small tree, with smooth light-grey bark: leaves heart-shaped, doubly serrate, smooth. The wood is white and tough. Flowers in May: grows in woods and hedges: frequent. *Eng. Bot.* vol. xxix. pl. 2032. *Eng. Fl.* vol. iv. p. 156. 1371.

## 24. CO'RYLUS. HAZEL.

Barren Flowers. Catkins cylindrical, imbricated all round with scales, each enclosing a single flower, narrower at the base, broader at the end, with three deep egg-shaped segments, the middle one largest and lying over the others. Corolla none. Filaments eight, very short, hanging from the inner side of the scale; anthers oblong, two-celled, pendulous, shorter than the scale.

Fertile Flowers at a distance from the others, from scaly buds. Calyx double; the outer inferior, of one leaf, deeply divided, many-flowered, finally enlarged, permanent; inner superior, minute, deciduous. Corolla none. Germen very small, egg-shaped, with rudiments of two seeds. Styles two, very short; stigmas prominent, awl-shaped, downy, deciduous. Nut egg-shaped, hard, compressed, downy at the top, one-celled, invested with the greatly enlarged outer calyx. Kernel solitary, egg-shaped.—Named from *corys*, a cap, on account of the appearance of the fruit. 443.

1. *C. Avellana*. *Common Hazel*. Stipules egg-shaped, obtuse; leaves roundish, heart-shaped, pointed; calyx shorter than the nut.—A small bushy tree, with numerous branches, which are hairy when young: leaves deeply serrate, light-green, downy. The wood makes excellent charcoal for drawing, and is used for numerous economical purposes. The nuts are used as food, and are also eaten by squirrels, hogs, and other animals. Flowers in March and April: grows in woods and copses: common. *Eng. Bot.* vol. xi. pl. 723. *Eng. Fl.* vol. iv. p. 157. 1372.



## MONADELPHIA.

## 25. PINUS. PINE.

**Barren Flowers.** Catkin deciduous, of numerous naked, spreading stamens, connected by a common stalk. Calyx none. Corolla none. Filaments very short; anthers erect, wedge-shaped, two-celled, crowned with a jagged membranous crest.

**Fertile Flowers.** Catkin egg-shaped, or roundish, of numerous, imbricated, close, stiff, permanent, two-flowered scales. Corolla none. Germens two. Style one to each germen; stigmas simple. Cone egg-shaped, hard, of numerous woody, permanent scales. Seeds two to each scale, oval, each crowned with a membranous wing.—Name from *pin*-or *pen*, a mountain.

444.

1. *P. sylvestris*. *Scotch Fir*. Leaves in pairs, stiff; cones egg-shaped, acute, as long as the leaves.—A tall straight tree, with scaly, reddish-brown bark. The wood is of great value for numerous purposes. Resin and tar are obtained from it. The roots are used in many parts of Scotland for candles. Flowers in May: grows in the Highlands of Scotland in extensive forests. *Eng. Bot.* vol. xxxv. p. 2460. *Eng. Fl.* vol. iv. p. 275. 1373.

## CLASS XXII. DICECIA.

*Plants having Flowers furnished with Stamens only on one individual, and Flowers furnished with Pistils only on another individual of the same species.*

Order I. MONANDRIA. *One Stamen.*

(Several species of *Salix*.)

Order II. DIANDRIA. *Two Stamens.*1. SA'LIX. *Flowers in imbricated catkins.*

*Barren flowers.* Calyx a scale. Petals none. Nectary a gland at the base of the scale. Stamens from one to five.

*Fertile flowers.* Calyx a scale. Petals none. Nectary a gland. Stigmas two. Capsule one-celled, two-valved, many-seeded. Seeds with a tuft of hairs.

Order III. TRIANDRIA. *Three Stamens.*2. EMPETRUM. *Barren flowers.* Calyx deeply divided into three segments. Corolla of three petals. Stamens hair-like, from three to nine.

*Fertile flowers.* Calyx deeply divided into three segments. Corolla of three petals. Stigmas nine. Berry superior, two-seeded.

3. RU'SCUS. *Barren flowers.* Calyx of six leaves. Corolla none. Nectary egg-shaped, tubular, bearing the stamens.

*Fertile flowers.* Calyx of six leaves. Corolla none. Style one. Berry superior, three-celled. Seeds in pairs.

(*Valeriana dioica* and some species of *Salix*.)

#### Order IV. TETRANDRIA. *Four Stamens.*

5. HIPPOPHIAE. Barren flowers. Calyx deeply cleft. Corolla none.

*Fertile flowers.* Calyx tubular, cleft. Style one. Berry superior. Seed solitary, oblong.

6. MYRICA. Barren flowers in a catkin. Calyx a concave scale. Corolla none.

*Fertile flowers in a catkin.* Calyx a concave scale. Corolla none. Styles two. Berry superior. Seed solitary, globular.

4. VISCUM. Barren flowers. Calyx none. Corolla of one petal, deeply divided into four segments. Anthers sessile on the segments of the corolla.

*Fertile flowers.* Calyx a slight border. Corolla with four segments. Style none. Berry inferior. Seed solitary, compressed.

(*Rhamnus catharticus*. *Euonymus europæus*. *Urtica dioica*.)

#### Order V. PENTANDRIA. *Five Stamens.*

7. HUMULUS. Barren flowers. Calyx five-leaved. Corolla none. Anthers with two terminal pores.

*Fertile flowers in a catkin.* Calyx an oblique undivided scale. Corolla none. Styles two. Seed one.

(*Ribes alpina*. *Bryonia dioica*. *Salix pentandra*.)

#### Order VI. HEXANDRIA. *Six Stamens.*

8. TAMUS. Barren flowers. Calyx none. Corolla with six deep segments.

*Fertile flowers.* Calyx none. Corolla with six deep segments. Style three-cleft. Berry inferior, three-celled. Seeds in pairs.

(*Rumex Acetosa* and *Acetosella*.)

#### Order VII. OCTANDRIA. *Eight Stamens.*

10. RHODIOLA. Barren flowers. Calyx with four deep segments. Petals four. Nectaries four-notched.

*Fertile flowers.* Calyx, petals, and nectaries, the same. Pistils four. Capsules four. Seeds numerous.

9. POPULUS. Barren flowers. Catkin imbricated. Calyx a jagged scale. Corolla turbinate, oblique, undivided.

*Fertile flowers.* Catkin, calyx, and corolla, the same. Stigmas four or eight. Capsule superior, one-celled, two-valved. Seeds with a tuft of hairs.

#### Order VIII. ENNEANDRIA. *Nine Stamens.*

11. MERCURIALIS. Barren flowers. Calyx with three deep segments. Corolla none. Stamens from nine to twelve. Anthers of two globular lobes.

*Fertile flowers.* Calyx and corolla the same. Styles two. Capsule two-lobed, two-celled. Seeds solitary.

12. **HYDROCHARIS.** *Barren flowers.* Calyx with three deep segments. *Petals three.* *Inner Filaments* with a beak. *Fertile flowers.* Calyx and corolla the same. *Styles six.* *Capsule inferior, six-celled.* *Seeds numerous.*

• (*Empetrum nigrum.*)

Order IX. DECANDRIA. *Ten Stamens.*

(*Silene otites.* *Lychuis sylvestris* and *vespertina.*)

Order X. ICOSANDRIA. *Numerous Stamens, arising from the Calyx.*

• (*Rubus Chamæmorus.*)

Order XI. POLYANDRIA. *Numerous Stamens, arising from the Receptacle.*

(*Stratiotes aloides.* *Populus alba, tremula* and *nigra.*)

Order XII. MONADELPHIA. *Filaments united into one set.*

13. **JUNIPERUS.** *Barren flowers.* Calyx the scale of a catkin. *Corolla none.* *Stamens three.*

*Fertile flowers.* Calyx the scales of a catkin, few, finally pulpy and united into a berry with three seeds.

- 14. **TAXUS.** *Barren flowers.* Calyx none. *Corolla none.* *Style one.* *Anthers peltate, with several lobes.*

*Fertile flowers.* Calyx cup-shaped, entire. *Corolla none.* *Style one.* *Seed one, enclosed in the enlarged, pulpy calyx.*

(*Salix rubra* and *Croweana.*)

DICECIA.—DIANDRIA.

1. SALIX.\* WILLOW.

*Barren Flowers.* Catkin oblong, imbricated all round. Calyx an oblong, spreading, one-flowered scale. *Corolla none.* *Nectary* a small, oblong, compressed gland, at the base of the scale; sometimes double. *Filaments* generally two, but varying from one to five or more, thread-shaped, longer than the calyx; anthers two-lobed, two or four-celled.

*Fertile Flowers.* Catkin oblong, imbricated all round. Calyx an oblong scale. *Corolla none.* *Germen* superior, egg-shaped. *Style* terminal, permanent; stigmas two, notched or cleft, spreading. *Capsule* egg-shaped, obtuse, or tapering, one-celled, two-valved. *Seeds* numerous, minute, oval, tufted with soft erect hairs.—Name, Celtic, from *sal*, near, and *lis*, water.

445.

\* In this very difficult and extensive genus, the arrangement and characters of Smith have been exclusively adopted.

\* *Adult leaves serrate, smooth, or nearly so.*

1. *S. triandra*. *Long-leaved Triandrous Willow*. Leaves oblong, inclining to linear, serrate, smooth, rather unequally sloping at the base; stamens three; germen stalked, egg-shaped, smooth; stigmas nearly sessile.—An erect tree, rising to the height of thirty feet. It is cultivated as an osier, for white basket-work, for which purpose it is one of the most valuable. Flowers in May and August: grows in wet woods and hedges: common. *Eng. Bot.* vol. xx. pl. 1435. *Eng. Fl.* vol. iv. p. 166. 1374.

2. *S. Hoffmannidna*. *Short-leaved Triandrous Willow*. Leaves oblong, inclining to egg-shaped, serrate, smooth, slightly rounded at the base; stamens three; germen stalked, egg-shaped, compressed, smooth; stigmas nearly sessile.—From twelve to fifteen feet high. Flowers in May: grows on the banks of rivulets in Sussex and near Cambridge. *Eng. Fl.* vol. iv. p. 168. 1375.

3. *S. undulata*. *Sharp-leaved Triandrous Willow*. Leaves lance-shaped, serrate, smooth, tapering towards each end; leaf-stalks decurrent; stamens three; germen stalked, egg-shaped, smooth; style as long as the stigmas.—Cultivated for the coarser kinds of basket-work. Flowers in April and May: grows in low meadows and woods. *Eng. Bot.* vol. xx. pl. 1436. *S. lanceolata*. *Eng. Fl.* vol. iv. p. 168. 1376.

4. *S. amygdalina*. *Almond-leaved Willow*. Leaves egg-shaped, serrate, smooth, rounded and unequal at the base; stamens three; germen egg-shaped, compressed, smooth; its stalk almost as long as the scale; stigmas nearly sessile; young branches furrowed.—A large bushy shrub or small tree: cultivated for coarse basket-work. Flowers in April and May, and in August: grows on the banks of rivers and ditches: frequent. *Eng. Bot.* vol. xxvii. pl. 1636. *Eng. Fl.* vol. iv. p. 169. 1377.

5. *S. pentandra*. *Sweet Bay-leaved Willow*. Leaves egg-shaped, pointed, crenate, glandular, smooth; leaf-stalks glandular at the top; stamens five or more, hairy at the base; germen egg-shaped, tapering, smooth, nearly sessile.—An erect tree, fifteen or twenty feet high: leaves smooth on both sides, their edges discharging a yellow resin, from which emanates the fragrant bay-like scent, for which the plant is noted. Flowers in June and July: grows about rivers. *Eng. Bot.* vol. xxvi. pl. 1805. *Eng. Fl.* vol. iv. p. 171. 1378.

6. *S. nigricans*. *Dark-broad-leaved Willow*. Leaves between lance-shaped and elliptical, acute, crenate, smooth, with a downy rib above, glaucous beneath; stamens two, thrice the length of the hairy scales; germen lance-shaped, downy, on a short downy stalk.—A large bushy shrub. Flowers in April: grows in marshes, woods, and thickets, in England: rare. *Eng. Bot.* vol. xvii. pl. 1213. *Eng. Fl.* vol. iv. p. 172. 1379.

7. *S. radicans*. *Tea-leaved Willow*. Leaves between lance-shaped and elliptical, with wavy serratures, smooth, glaucous beneath; stipules glandular on the inside; germen lance-shaped, stalked, silky; style twice as long as the stigmas; branches recumbent, rooting.—A low spreading bush. Flowers in May: grows at Finlarig in Breadalbane. *Eng. Bot.* vol. xxviii. pl. 1958. *S. phyllifolia*. *Eng. Fl.* vol. iv. p. 173. 1380.

8. *S. Borreridna*. *Dark Upright Willow*. Leaves lance-shaped, with shallow, even serratures, very smooth, glaucous beneath;

stipules obsolete; branches erect; scales of the catkins acute, shaggy.—A bushy shrub, eight or ten feet high, with dark-brown branches. Flowers in May: found by Mr. W. Borrer in Breadalbane and Glen Nevis. *Eng. Fl.* vol. iv. p. 174. 1381.

9. *S. nitens*. *Shining-leaved Willow*. Leaves elliptical, acute, unequally serrate, very smooth and glaucous beneath, minutely downy with a downy central rib above; stipules obsolete; branches spreading; catkins nearly sessile, with acute, shaggy scales.—A bushy shrub, ten or twelve feet high: leaves an inch and a half long, deep shining green. Flowers in April: grows in the mountainous parts of Scotland: rare. *Eng. Fl.* vol. iv. p. 175. 1382.

10. *S. Davalliana*. *Davallian Willow*. Leaves lance-shaped, inclining to inversely egg-shaped, finely serrate, or minutely toothed, tapering at both ends, smooth; rather glaucous beneath; flower-stalks, central rib, and young branches, somewhat downy; catkins with small rounded scales; capsules lance-shaped, smooth.—A bushy shrub, about six feet high, with smooth, brown branches: leaves about an inch and a half long. Flowers in May: grows in the Highlands of Scotland. *Eng. Fl.* vol. iv. p. 175. 1383.

11. *S. Wulfeniana*. *Wulfenian Willow*. Leaves inversely egg-shaped or elliptical, somewhat pointed, finely serrate, smooth, glaucous beneath; catkin dense, with hairy scales, longer than the stalks of the awl-shaped, hairy germen: style longer than the stigmas.—A shrub about six feet high: leaves an inch and a half long, with reticulated veins. Flowers in April and May: found by Mr. W. Borrer, in Breadalbane and at Kirkby Lonsdale. *Eng. Fl.* vol. iv. p. 177. 1384.

12. *S. tetrapla*. *Four-ranked Willow*. Leaves between elliptical and oblong, pointed and equally serrated, nearly smooth, glaucous with prominent veins beneath; stipules half heart-shaped; scales commonly shorter than the hairy stalks of the oblong smooth germen; style as long as the stigmas.—A small shrub, nearly allied to the last, of which Dr. Walker says, "four leaves complete the spiral upon the branch, and on account of this singularity, it has been called *S. tetrapla*." *Essays*, p. 408. Flowers in May: found in Breadalbane by Mr. W. Borrer. *Eng. Fl.* vol. iv. p. 177. 1385.

13. *S. bicolor*. *Shining dark-green Willow*. Leaves between elliptical and oblong, acute, waved, and slightly serrate, nearly smooth, glaucous beneath; leaf-stalks dilated at the base; stipules pointed, serrate; scales obtuse, hairy, half as long as the densely downy, egg-shaped, long-stalked germen.—A small tree, six feet high or more, with erect reddish-brown branches. Flowers in April and May: grows in woods and thickets. *Eng. Bot.* vol. xxvi. pl. 1806. *Eng. Fl.* vol. iii. p. 178. 1386.

14. *S. tenuifolia*. *Thin-leaved Willow*. Leaves elliptical, acute, serrate, smoothish, glaucous beneath; stipules small or none; scales hairy; capsule egg-shaped, smooth, on a short smooth stalk. A small spreading shrub: the young branches downy. Flowers in May and June: grows about the rocky banks of rivers. *Eng. Bot.* vol. xxxi. pl. 2186. *Eng. Fl.* vol. iv. p. 179. 1387.

15. *S. malifolia*. *Apple-leaved Willow*. Leaves between elliptical and oblong, toothed, waved, thin and crackling, very smooth; stipules heart-shaped, about the length of the flower-stalks; scales inversely egg-shaped, bearded; germen lance-shaped, smooth, on

a short smooth stalk.—A shrub with leaves resembling those of an apple-tree. Flowers in April. Found in Scotland by Mr. Dickson. *Eng. Bot.* vol. xxiii. pl. 1617. *Eng. Fl.* vol. iv. p. 180. 1388.

16. *S. petiolaris*. *Dark-long-leaved Willow*. Leaves lance-shaped, serrate, smooth, glaucous beneath, somewhat unequal at the base; stipules lance-shaped, somewhat curved, toothed; catkins loose; scales hairy, shorter than the stalks of the egg-shaped silky germen; stigmas divided, sessile.—A bushy tree with slender purplish branches: leaves four inches long, bright-green above. Flowers in April. Found by Mr. G. Don, in marshes in Angushire. *Eng. Bot.* vol. xvi. pl. 1147. *Eng. Fl.* vol. iv. p. 181. 1389.

17. *S. vitellina*. *Yellow Willow, or Golden Osier*. Leaves lance-shaped, acute, with cartilaginous serratures, smooth above, glaucous and somewhat silky beneath; stipules minute, lance-shaped, deciduous, smooth; germen sessile, broadly lance-shaped, smooth; scales between lance-shaped and linear, acute, fringed at the base, longer than the pistil.—A tree of moderate height, with smooth, shining, yellow branches. Flowers in May: grows on the banks of rivers: common. *Eng. Bot.* vol. xx. pl. 1389. *Eng. Fl.* vol. iv. p. 182. 1390.

18. *S. decipiens*. *White Welsh, or Varnished Willow*. Leaves lance-shaped, pointed, serrate, very smooth; flower-stalks somewhat glandular; germen tapering, stalked, smooth; style longer than the cleft stigmas; branches highly polished.—A small tree, distinguished by its shining clay-coloured branches. When cultivated, affords good rods for basket-work. Flowers in May: grows in low meadows and moist hedges. *Eng. Bot.* vol. xxvii. pl. 1937. *Eng. Fl.* vol. iv. p. 184. 1391.

19. *S. fragilis*. *Crack Willow*. Leaves between lance-shaped and egg-shaped, pointed, serrate, very smooth; leaf-stalks glandular; germen egg-shaped, abrupt, nearly sessile, smooth; scales oblong, about the length of the stamens; stigmas cleft, longer than the style.—A tall tree, with very brittle, smooth, brown branches: leaves four or five inches long, dark-green above. Flowers in April and May: grows on the banks of rivers: frequent. *Eng. Bot.* vol. xxvi. pl. 1807. *Eng. Fl.* vol. iv. p. 185. 1392.

20. *S. Russellidna*. *Bedford Willow*. Leaves lance-shaped, tapering at both ends, serrate, very smooth; leaf-stalks glandular, sometimes bearing leaflets; germen tapering, stalked, longer than the scales; style as long as the stigmas.—A tall and handsome tree, with long light-green leaves. Flowers in April and May: grows by rivers and in marshy woods and meadows, but is not indigenous. *Eng. Bot.* vol. xxvi. pl. 1808. *Eng. Fl.* vol. iv. p. 186. 1393.

21. *S. purpurea*. *Bitter purple Willow*. Branches decumbent; leaves lance-shaped, broadest towards the end, serrate, very smooth, narrow at the base; stamen one; stigmas very short, egg-shaped, nearly sessile.—A shrub with spreading branches of a shining deep-purple colour. Flowers in March: grows in low meadows, about the banks of rivers and ditches: rare. *Eng. Bot.* vol. xx. pl. 1388. *Eng. Fl.* vol. iv. p. 187. 1394.

22. *S. Hélix*. *Rose Willow*. Branches erect, leaves between oblong and lance-shaped, pointed, slightly serrate, very smooth, linear towards the base; stamen one; style nearly as long as the linear, di-

vided stigmas.—A tree about ten feet high, with erect, pale-yellowish or purplish, polished branches. Flowers in March and April: grows on the banks of rivers: common. *Eng. Bot.* vol. xix. pl. 1343. *Eng. Fl.* vol. iv. p. 188. 1395.

23. *S. Lambertiana*. *Boyton Willow*. Branches erect, leaves lance-shaped, broadest towards the end, pointed, serrate, smooth, rounded at the base; stipules none; stamen one; stigmas egg-shaped, obtuse, notched, very short, nearly sessile.—A small tree with erect, purplish branches. Flowers in March and April: grows on the banks of rivers in England: rare. *Eng. Bot.* vol. xix. pl. 1359. *Eng. Fl.* vol. iv. p. 190. 1396.

24. *S. Forbyana*. *Fine Basket Osier*. Branches erect; leaves between lance-shaped and oblong, with shallow serratures, smooth, rounded at the base, glaucous beneath; stamen one; style nearly as long as the linear, divided stigma.—A shrub with erect, slender, greyish-yellow twigs, highly esteemed for the finer kinds of basket-work. Flowers in April: grows in meadows and marshy places in Norfolk and Cambridgeshire: rare. *Eng. Bot.* vol. xix. pl. 1344. *Eng. Fl.* vol. iv. p. 191. 1397.

25. *S. rubra*. *Green-leaved Osier*. Stamens two, united for half their length; leaves lance-shaped, inclining to linear, elongated, acute, smooth, with shallow serratures, green on both sides; stigma egg-shaped, undivided.—A small tree, with long, smooth, purplish branches. One of the most valuable for basket-work. Flowers in April and May: grows in low meadows and marshy places: not common. *Eng. Bot.* vol. xvi. pl. 1145. *Eng. Fl.* vol. iv. p. 191. 1398.

26. *S. Crowedna*. *Broad-leaved Monadelphous Willow*. Stamens united at the base; leaves elliptical, slightly serrate, smooth, glaucous beneath.—A bushy shrub, four or five feet high, with stout brittle brownish-yellow branches: flowers in April and May: grows in marshy meadows and thickets: rare. *Eng. Bot.* vol. xvi. pl. 1146. *Eng. Fl.* vol. iv. p. 192. 1399.

27. *S. prunifolia*. *Plum-leaved Willow*. Leaves broadly egg-shaped, serrate, smooth on both sides, even above, glaucous beneath; stem erect, much branched; capsules egg-shaped, covered, like the scales, with long silky hairs.—A bushy shrub, often three feet high, with spreading branches. Flowers in April and May: grows on the Highland mountains. *Eng. Bot.* vol. xix. pl. 1361. *Eng. Fl.* vol. iv. p. 193. 1400.

28. *S. vacciniifolia*. *Bilberry-leaved Willow*. Leaves between egg-shaped and lance-shaped, smooth and even above, glaucous and silky beneath; capsules egg-shaped, silky; stems decumbent.—A small shrub, with long, slender branches, silky when young. Flowers in April: grows on the higher mountains of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2341. *Eng. Fl.* vol. iv. p. 194. 1401.

29. *S. venulosa*. *Veiny-leaved Willow*. Leaves egg-shaped, serrate, naked, reticulated with prominent veins above, rather glaucous beneath; capsules egg-shaped, silky; stem erect, much branched.—A small bushy shrub, allied to *S. prunifolia*. Flowers in April and May: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1362. *Eng. Fl.* vol. iv. p. 195. 1402.

30. *S. myrsinites*. *Green Whortle-leaved Willow*. Leaves elliptical, serrate, smooth, veiny, polished on both sides; young branches hairy; germens stalked, downy; capsules awl-shaped. —A small bushy shrub, with dark-brown branches. Flowers in May and June: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1360. *Eng. Fl.* vol. iv. p. 195. 1403.

31. *S. Dicksonidna*. *Broad-leaved Mountain Willow*. Leaves elliptical, acute, slightly toothed, smooth, glaucous beneath; young branches very smooth; catkins egg-shaped, short, erect; germen stalked, egg-shaped, silky; stigmas nearly sessile. —A small smooth shrub, with brownish branches. Flowers in April: grows in the Highlands of Scotland. *Eng. Bot.* vol. xx. pl. 1390. *Eng. Fl.* vol. iv. p. 196. 1404.

32. *S. carinita*. *Folded-leaved Willow*. Leaves egg-shaped, finely toothed, smooth, minutely veined, folded so as to form a keel; catkin cylindrical, with rounded, hairy scales; germen sessile, egg-shaped, silky. —A bushy shrub, with brown branches, hairy when young. Flowers in April: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1363. *Eng. Fl.* vol. iv. p. 197. 1405.

33. *S. arbuscula*. *Little Tree Willow*. Leaves lance-shaped, acute, obscurely toothed, smoothish, glaucous beneath, silky when young; branches downy; catkin egg-shaped, erect, germen stalked, between egg-shaped and lance-shaped, silky. —Stem erect, slender, about a foot high, branchless below, like a small tree, with light-brown branches. Flowers in April: grows in the Highlands of Scotland. *Eng. Bot.* vol. xix. pl. 1366. *Eng. Fl.* vol. iv. p. 198. 1406.

34. *S. livida*. *Livid Dwarf Willow*. Leaves between elliptical and oblong, obscurely toothed, smooth, livid beneath; stipules none; germen nearly cylindrical, downy, its stalk twice as long as the scale; stigmas nearly sessile. —A small shrub, about a foot high, with shining divergent branches. Found by Mr. Maughan, at the foot of Hartfell, near Moffat. *Eng. Fl.* vol. iv. p. 199. 1407.

35. *S. herbacea*. *Least Willow*. Leaves round, serrate, reticulated with veins, smooth and shining on both sides; germen stalked, egg-shaped, smooth. —A diminutive shrub, scarcely two inches above ground, with long branched roots. Flowers in June: grows on the summits of the higher mountains of Scotland, England, and Wales: frequent. *Eng. Fl.* vol. iv. p. 200. 1408.

\*\* *Adult leaves entire, nearly smooth.*

36. *S. reticulata*. *Wrinkle-leaved Willow*. Leaves broadly elliptical, nearly circular, obtuse, entire, leathery, with reticulated veins, nearly smooth, glaucous beneath; germen sessile, downy. —A small shrub, with stems two or three inches high, readily distinguished by its curiously reticulated leaves. Flowers in June: grows on the higher mountains of Scotland, Yorkshire, and Wales: rare. *Eng. Bot.* vol. xxvii. pl. 1908. *Eng. Fl.* vol. iv. p. 200. 1409.

\*\*\* *Leaves hairy or silky.*

37. *S. glauca*. *Glaucous Mountain Willow*. Leaves nearly entire, between lance-shaped and elliptical, even and nearly smooth above, woolly and white beneath; leaf-stalks decurrent; germen sessile, egg-shaped, woolly. —A shrub two or three feet high, with short,



spreading brown or yellowish branches: flowers in May: found on the Clova mountains, by Messrs. G. and D. Don. *Eng. Bot.* vol. xxvi. pl. 1810. *Eng. Fl.* vol. iv. p. 202. 1410.

38. *S. Stuartiana*. *Small-leaved Shaggy Willow*. Leaves nearly entire, between lance-shaped and egg-shaped, acute, shaggy above, densely silky beneath; style as long as the almost sessile, woolly germen; stigmas hair-like, deeply divided, as long as the style. —A bushy shrub, two or three feet high, with dark-brown branches, downy when young: flowers in July and August: grows in the Highlands of Scotland. *Eng. Bot.* vol. xxvi. pl. 1809. *Eng. Fl.* vol. iv. p. 203. 1411.

39. *S. arenaria*. *Downy Mountain Willow*. Leaves nearly entire, egg-shaped, acute; reticulated and somewhat downy above, veined and densely woolly beneath; style as long as the sessile, woolly germen; stigmas linear, deeply divided, as long as the style. —A small shrub, allied to *S. glauca*: flowers in May and June: grows on mountains in the Highlands of Scotland. *Eng. Bot.* vol. xxvi. pl. 1809. *Eng. Fl.* vol. iv. p. 204. 1412.

40. *S. lanata*. *Woolly Broad-leaved Willow*. Leaves between egg-shaped and roundish, pointed, entire, shaggy on both sides, glaucous beneath; germen sessile, oblong, smooth; style four times as long as the blunt, divided stigmas. —A shrub, three or four feet high, with numerous, distorted branches, downy when young. Found by Mr. T. Drummond on rocks among the Clova mountains. *Eng. Fl.* vol. iv. p. 205. 1413.

41. *S. argentea*. *Silky Sand Willow*. Leaves elliptical, entire, somewhat revolute, with a recurved point, rather downy above, silky and shining beneath, as well as the branches; stem erect; germen between lance-shaped and egg-shaped, silky; its silky stalk nearly as long as the linear, oblong scale; style not longer than the stigmas. —A shrub, four or five feet high, with numerous silky branches. Flowers in May: grows in moist moory ground. *Eng. Bot.* vol. xix. pl. 1364. *Eng. Fl.* vol. iv. p. 207. 1414.

42. *S. foetida*. *Fishy Willow*. Leaves elliptical, nearly entire, with a recurved point, glaucous and silky beneath; stem recumbent; germen between egg-shaped and lance-shaped, one silky stalk nearly equal to the inversely egg-shaped scale. —A low creeping shrub, with long, straight, downy branches, and a nauseous scent, like that of some fresh-water fishes. Flowers in May: grows on moist heathy or sandy ground in England. *Eng. Bot.* vol. xxviii. pl. 1962, and pl. 1961. *Eng. Fl.* vol. iv. p. 208. 1415.

43. *S. repens*. *Common Dwarf Willow*. Leaves between elliptical and lance-shaped, straight, somewhat pointed, nearly entire, almost naked above, glaucous and silky beneath; stipules none; stem depressed, with short, erect branches; germen stalked, egg-shaped, downy; capsules smooth. —A small shrub, with a prostrate stem, and numerous erect branches. Flowers in May: grows on sandy mountainous heaths: very common. *Eng. Bot.* vol. iii. pl. 183. *Eng. Fl.* vol. iv. p. 209. 1416.

43. *S. fusca*. *Brownish Dwarf Willow*. Leaves between elliptical and oblong, acute, straight, flat, with a few glandular teeth, glaucous and silky beneath; stipules none; stem erect, much branched; germen sessile, nearly smooth, tapering into an elongated style.

—A small bushy shrub, from six to twelve inches high, with brown branches, downy when young. Flowers in May: grows on moist mountainous heaths. *Eng. Bot.* vol. xxviii. pl. 1960. *Eng. Fl.* vol. iv. p. 210. To this variable species may probably be referred the three preceding, as well as the two next. 1417.

45. *S. prostrata*. *Early Prostrate Willow*. Leaves between elliptical and oblong, convex, somewhat toothed, with a curved point; glaucous, silky and veiny beneath; stipules minute; stem prostrate, with elongated, straight branches; germen stalked, egg-shaped, silky; style shorter than the stigmas. Flowers in March and April: grows on heaths. *Eng. Bot.* vol. xxviii. pl. 1959. *Eng. Fl.* vol. iv. p. 211. 1418.

46. *S. incubacea*. *Trailing Silk Willow*. Leaves between elliptical, and lance-shaped, pointed, straight, nearly entire; convex and smooth above, with prominent reticulated veins, glaucous and silky beneath; stem recumbent; catkins between egg-shaped and oblong; stalks of the silky germen longer than the scales; capsules smooth. —A small shrub, with reclining or prostrate dark-brown stems, about two feet long. Flowers in May: grows in sandy meadows: found by Mr. E. Forster at Hopton in Suffolk. *Eng. Fl.* vol. iv. p. 212. 1419.

47. *S. Doniana*. *Rusty-branched Willow*. Leaves lance-shaped, broadest towards the end, acute, straight, slightly serrate, livid and somewhat silky beneath; stem and branches erect; catkins cylindrical; germen stalked, silky, longer than the inversely egg-shaped, bearded scales. —A shrub five or six feet high, with straight, reddish branches. Flowers in May: found in Scotland by Mr. G. Don. *Eng. Fl.* vol. iv. p. 213. 1420.

48. *S. rosmarinifolia*. *Rosemary-leaved Willow*. Leaves between linear and lance-shaped, pointed, straight, entire, silky beneath; stem erect; catkins egg-shaped, recurved; germen stalked, lance-shaped, silky. —A slender shrub, two or three feet high, with erect, very slender branches, silky when young. Flowers in April: grows in moist sandy ground. *Eng. Bot.* vol. xix. pl. 1365. *Eng. Fl.* vol. iv. p. 214. 1421.

49. *S. cinerea*. *Grey Sallow*. Stem erect; lower leaves entire, upper serrate, lance-shaped, broadest towards the end; glaucous, downy and reticulated with veins beneath; stipules half heart-shaped, serrate; germen silky; its stalk half as long as the lance-shaped scales. —A tree twenty or thirty feet high, with smooth, reddish-brown, crooked branches. Flowers in April: grows in moist woods and hedges. *Eng. Bot.* vol. xxvii. pl. 1897. *Eng. Fl.* vol. iv. p. 215. 1422.

50. *S. aurita*. *Round-eared Willow*. Branches spreading; leaves somewhat serrate, convex, inversely egg-shaped, obtuse, with a small hooked point, hairy and reticulated with veins on both sides. Stipules roundish, convex, toothed; germen silky, stalked; stigmas nearly sessile. —A bushy shrub, three or four feet high, with spreading or trailing branches of a brown colour. Flowers in April and May: grows in moist woods and thickets. *Eng. Bot.* vol. xxi. pl. 1487. *Eng. Fl.* vol. iv. p. 216. 1423.

51. *S. aquatica*. *Water Sallow*. Stem and branches erect; leaves slightly serrate, elliptical, broadest towards the end, minutely downy, flat, rather glaucous beneath; stipules rounded, toothed; germen silky, stalked; stigmas nearly sessile. —A shrub or small tree, with numerous erect branches. Flowers in April: grows in

wet woods and hedges, in marshy places, and on the banks of rivers: very common. *Eng. Bot.* vol. xx. pl. 1437. *Eng. Fl.* vol. iv. p. 218. 1424.

52. *S. oleifolia*. *Olive-leaved Sallow*. Stem erect; branches straight, spreading; leaves lance-shaped, broadest towards the end, flat, rather stiff, minutely toothed, acute, glaucous, reticulated and finely hairy beneath; stipules small, notched, rounded; catkins oval, nearly half as broad as long.—A small tree, with round branches, when young brown and hoary. Flowers in March: grows in wet woods and hedges. *Eng. Bot.* vol. xx. pl. 1402. *Eng. Fl.* vol. iv. p. 219. 1425.

53. *S. cotinifolia*. *Quince-leaved Sallow*. Stem erect; branches spreading, downy; leaves broadly elliptical, nearly round, slightly toothed; glaucous and downy, with rectangular veins beneath; style as long as the linear, notched stigmas.—A shrub from two to eight feet high, with straight, brown, downy branches: flowers in April: grows in thickets and woods. *Eng. Bot.* vol. xx. pl. 1403. *Eng. Fl.* vol. iv. p. 220. 1426.

54. *S. hirta*. *Hairy-branched Sallow*. Stem erect; branches densely hairy; leaves elliptical, inclining to heart-shaped, pointed, finely crenate, downy on both sides; stipules half heart-shaped, flat, toothed; nearly smooth.—A small tree, with thick, round, hoary branches: flowers in April and May: found in Norfolk by Mr. Crowe. *Eng. Bot.* vol. xx. pl. 1404. *Eng. Fl.* vol. iv. p. 221. 1427.

55. *S. rupéstris*. *Silky Rock Sallow*. Stem procumbent or depressed; leaves inversely egg-shaped, acute, serrate, flat, even, silky on both sides; stipules hairy; branches minutely downy; germen stalked, awl-shaped, silky; style as long as the blunt undivided stigmas.—A small trailing shrub, with dark-coloured branches, downy when young: flowers in May: grows on rocks in the Highlands of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2342. *Eng. Fl.* vol. iv. p. 222. 1428.

56. *S. Andersoniana*. *Green Mountain Sallow*. Stem erect; leaves elliptical, acute, finely notched, slightly downy, paler beneath; stipules half egg-shaped, nearly smooth; branches minutely downy; germen smooth, its stalk almost equal to the scale; style cleft, longer than the cleft stigmas.—A large shrub, with dark-brown branches, at first green and downy: flowers in April and May: grows in woods and on the banks of rivers in Scotland and the north of England. *Eng. Bot.* vol. xxxiii. pl. 2343. *Eng. Fl.* vol. iv. p. 223. 1429.

57. *S. Forsteriana*. *Glaucous Mountain Sallow*. Stem erect; branches minutely downy; leaves elliptical, broadest towards the end, acute, crenate, slightly downy; glaucous beneath; stipules rounded, recurved; germen stalked, awl-shaped, silky; style as long as the blunt notched stigmas.—A small tree, with downy branches: flowers in May: grows in woods and on the banks of rivers, in Scotland and the north of England. *Eng. Bot.* vol. xxxiii. pl. 2344. *Eng. Fl.* vol. iv. p. 224. 1430.

58. *S. sphacelata*. *Withered-pointed Sallow*. Stem erect; leaves between elliptical and inversely egg-shaped, entire, or slightly serrate, downy on both sides, discoloured at the point; stipules half heart-shaped, toothed, erect; germen stalked, lance-shaped, silky; stigmas notched, longer than the style.—A small bushy tree, six or eight feet high, the young branches covered with soft whitish hairs: flowers in April and May: grows in valleys in the Highlands of Scotland. *Eng. Bot.* vol. xxxiii. pl. 2333. *Eng. Fl.* vol. iv. p. 224. 1431.

59. *S. caprea*. *Great Round-leaved Willow*. Stem erect; leaves between egg-shaped and roundish, pointed, serrate, waved, pale and downy beneath; stipules somewhat crescent-shaped; catkins oval; germen stalked, egg-shaped, silky; stigmas nearly sessile, undivided; capsules swelling.—A tree of moderate size, with spreading, brown or purplish branches: leaves from two to three inches long: flowers in April: grows in woods and hedges: common. *Eng. Bot.* vol. xxi. pl. 1488. *Eng. Fl.* vol. iv. p. 226. 1432.

60. *S. acuminata*. *Long-leaved Willow*. Stem erect; leaves between lance-shaped and oblong, pointed, waved, finely toothed, glaucous and downy beneath; stipules half egg-shaped, finely curved; catkins cylindrical; germen stalked, egg-shaped, hairy; style as long as the undivided stigmas.—A tree of moderate size, with spreading, minutely downy branches: flowers in April: grows in woods and on the banks of rivers: common. *Eng. Bot.* vol. xx. pl. 1434. *Eng. Fl.* vol. iv. p. 227. 1433.

61. *S. viminalis*. *Common Osier*. Leaves linear, inclining to lance-shaped, elongated, taper-pointed, entire, waved, snow-white and silky beneath; branches straight and slender; germen sessile; style as long as the linear, undivided stigmas.—A tree, with very long, straight branches, downy when young. Cultivated for basket-work, of various kinds: flowers in April and May: grows in wet meadows, and by rivers: common. *Eng. Bot.* vol. xxvii. pl. 1898. *Eng. Fl.* vol. iv. p. 228. 1434.

62. *S. Smithiana*. *Silky-leaved Osier*. Leaves lance-shaped, pointed, slightly wavy, minutely toothed; soft and minutely downy above, whitish and silky beneath; stipules crescent-shaped, minute; catkins egg-shaped; germen stalked; style shorter than the linear, deeply divided stigmas.—Branches long, slender, erect, reddish, smooth, finely downy when soft: flowers in April and May: grows in meadows, and on the banks of rivers. *Eng. Bot.* vol. xxi. pl. 1500. *Eng. Fl.* vol. iv. p. 229. *S. mollissima*. 1435.

63. *S. stipularis*. *Auricled Osier*. Leaves lance-shaped, pointed, slightly waved, obscurely crenate, soft and nearly naked above, white and downy beneath; stipules half heart-shaped, stalked, very large; nectary cylindrical; germen egg-shaped, nearly sessile, as well as the linear, undivided stigmas.—Twigs erect, long, soft, and downy, pale reddish-brown, brittle: flowers in March: grows in hedges and woods. *Eng. Bot.* vol. xvii. pl. 1214. *Eng. Fl.* vol. iv. p. 230. 1436.

64. *S. alba*. *Common White Willow*. Leaves between elliptical and lance-shaped, pointed, serrate, silky on both sides, the lowest serratures glandular; stamens hairy; germen smooth, almost sessile; stigmas deeply cleft; scales rounded.—A tall tree, with rugged bark and spreading branches, silky when young. Flowers in May: grows in moist woods, and on the banks of rivers and ditches: common. *Eng. Bot.* vol. xxxiv. pl. 2430. *Eng. Fl.* vol. iv. p. 231. 1437.

## TRIANDRIA.

### 2. EMPE'TRUM. CROW-BERRY.

Barren flowers. Calyx deeply divided into three egg-shaped, permanent segments. Corolla of three oblong petals, larger than

the calyx. Filaments from three to nine, hair-like, long, pendulous; anthers roundish, deeply cleft, two-celled.

**Fertile Flowers.** Calyx, deeply divided into three egg-shaped, permanent segments. Corolla of three oblong petals, larger than the calyx. Germen superior, round, depressed. Style very short, erect; stigmas nine, oblong, spreading. Berry globular, depressed, wider than the calyx, one-celled. Seeds nine, triangular, closely arranged in a circle.—Name from *en*, in, and *petros*, a stone. 446.

1. *E. nigrum*. *Common Crow-berry*. Stem and branches procumbent, leaves between linear and oblong.—A small procumbent shrub, with numerous slender branches: leaves fringed at the edges: flowers reddish, axillar: berries black. The berries are eaten by grouse and other birds. They are not unpleasant, and appear to be perfectly wholesome. Flowers in May: grows on heaths abundantly. *Eng. Bot.* vol. viii. pl. 526. *Eng. Fl.* vol. iv. p. 233. 1438.

### 3. RU'SCUS. BUTCHER'S-BROOM.

**Barren Flowers.** Calyx of six egg-shaped, spreading leaves; three alternate ones smaller. Corolla none. Nectary central, egg-shaped, erect, coloured, as long as the calyx. Filaments none; anthers three, spreading, seated on the top of the nectary.

**Perfect Flowers.** Calyx, corolla, and nectary, as above. Germen superior, oblong, concealed in the nectary. Style short and thick; stigma obtuse, protruded through the orifice of the nectary. Berry globular, three-celled. Seeds seldom more than one, globular, hard.—Name anciently *bruscus*. 447.

1. *R. aculeatus*. *Common Butcher's-broom*. Leaves egg-shaped, sharp-pointed, flowering on the upper side.—Stems round, furrowed, two feet high: flower solitary: berry scarlet. Perennial: flowers in March and April: grows on heaths and in woods: frequent in England. *Eng. Bot.* vol. viii. pl. 560. *Eng. Fl.* vol. iv. p. 235. 1439.

## TETRANDRIA.

### 4. VI'SCUM. MISSELTOE.

**Barren Flowers.** Calyx a slight border. Corolla of one petal, deeply divided into four egg-shaped, acute, equal segments. Filaments none; anthers four, egg-shaped, compressed, cellular, seated on the base of each segment of the corolla.

**Perfect Flowers.** Calyx a slight border. Corolla of four egg-shaped, equal petals. Germen inferior, egg-shaped, crowned with the calyx. Style none; stigma obtuse. Berry globular, smooth, juicy, viscid, one-celled. Seed one, heart-shaped, compressed, obtuse.—Name from *ixos*, of the Greeks. 448.

1. *V. album*. *Common White Misseltoe*. Leaves lance-shaped, broader towards the end, obtuse; stem forked; heads of flowers sessile.—Root woody, thick: stem bushy, jointed, smooth, about

a foot high: leaves stiff: flowers yellowish: berries white. Bird-lime is made from the berries and bark. A perennial parasitical shrub, growing on the apple-tree, hawthorn, oak, and other trees: flowers in May. Common in Herefordshire and Worcestershire. *Eng. Bot.* pl. 1470. *Eng. Fl.* vol. iv. p. 236. 1440.

#### 5. HIPPOPHAE. SALLOW-THORN.

Barren Flowers. Calyx deeply divided into two roundish segments, at first folded flat together. Corolla none. Filaments four, very short, erect; anthers oblong, angular, erect, two-celled, not longer than the calyx.

Fertile Flowers. Calyx of one leaf, inferior, tubular, cleft at the top, deciduous. Corolla none. Germen superior, small, roundish. Style short and thick; stigma simple, oblong, protruded beyond the calyx. Berry globular, juicy, one-celled. Seed solitary, oblong, polished.—Name from *hippos*, a horse, and *phao*, to brighten. 449.

1. *H. rhamnoides*. Common Sallow-thorn. Sea Buck-thorn. Leaves between linear and lance-shaped, scattered.—A bushy shrub, about five feet high, with straight, spreading branches, each ending in a thorn; leaves dark-green above, silvery beneath: flowers green: berries orange. Flowers in May: grows on cliffs on the east and south-east coast of England: frequent. *Eng. Bot.* vol. vi. pl. 425. *Eng. Fl.* vol. iv. p. 238. 1441.

#### 6. MYRICA. SWEET GALE.

Barren Flowers. Catkin between egg-shaped and oblong, loosely imbricated all round. Calyx an egg-shaped scale. Corolla none. Filaments four, short, hair-like, erect. Anthers large, two-lobed.

Fertile Flowers. Catkin, calyx, and corolla, as above. Germen egg-shaped, superior. Styles two, thread-shaped, spreading, longer than the calyx. Stigma acute. Berry one-celled. Seed one.—Name, *myrice*, of the Greeks. 450.

1. *M. Gale*. Sweet Gale. Dutch Myrtle. Leaves lance-shaped, broader towards the end, serrate; scales of the catkins pointed.—A shrub, from one to three feet high, with numerous alternate branches: berries very small. The whole plant exhales a rather pleasant aromatic odour. Flowers in May: grows on wet heaths, abundantly. *Eng. Bot.* vol. viii. pl. 562. *Eng. Fl.* vol. iv. p. 239. 1442.

### PENTANDRIA.

#### 7. HUMULUS. HOP.

Barren Flowers. Calyx of five oblong, concave leaves. Corolla none. Filaments five, hair-like, very short; anthers oblong, two-celled, with two terminal pores.

Fertile Flowers. Catkin of numerous large, membranous, imbricated scales. Calyx an oblique undivided scale. Corolla none. Germen superior, minute, oblong. Styles two, awl-

shaped, spreading, downy; stigmas simple. Seed one.—Name from *humus*, rich soil. 451.

1. *H. Lupulus*. *Common Hop*.—Stems herbaceous, twining, branched, angular, rough; leaves opposite, stalked, heart-shaped, serrate, veined, rough; flowers pale-green. The properties of the cones are well known. Perennial; flowers in July: grows in thickets and hedges, but is not indigenous. *Eng. Bot.* vol. vi. pl. 427. *Eng. Fl.* vol. iv. p. 288. 1443.

## HEXANDRIA.

### §. TAMUS. BLACK BRYONY.

**Barren Flowers.** Calyx none. Corolla regular, with six deep, broadly lance-shaped segments, their upper part spreading. Filaments six, awl-shaped, equal, shorter than the corolla; anthers roundish.

**Fertile Flowers.** Calyx none. Corolla regular, six-cleft, superior, deciduous. Germen inferior, between egg-shaped, and oblong, large, smooth. Style cylindrical, as long as the corolla; stigmas three, acute, spreading. Berry oval, three-celled. Seeds two in each cell.—Name of doubtful origin. 452.

1. *T. communis*. *Common Black Bryony*. Leaves heart-shaped, undivided.—Root large, fleshy; stems twining; leaves bright-green: flowers greenish-white: berries scarlet. Perennial: flowers in June: grows in hedges and woods, in England: frequent. *Eng. Bot.* vol. ii. pl. 91. *Eng. Fl.* vol. iv. p. 241. 1444.

## OCTANDRIA.

### 9. POPULUS. POPLAR.

**Barren Flowers.** Catkin oblong, loosely imbricated, cylindrical. Calyx a one-flowered, wedge-shaped, flat scale, jagged at the edges. Corolla of one petal, turbinate beneath, tubular, dilated and obliquely cup-shaped above. Filaments eight or more, hair-like, very short; anthers large, four-cornered.

**Fertile Flowers.** Catkin, calyx, and corolla, as above. Germen superior, egg-shaped, pointed. Style none; stigmas four or eight, awl-shaped. Capsules egg-shaped, two-valved, one-celled. Seeds numerous, small, egg-shaped, downy at the top.—Name *populus*, people, it being by the Romans esteemed the tree of the people. 453.

1. *P. alba*. *White Poplar*. *Abele Tree*. Leaves nearly triangular, somewhat heart-shaped at the base, toothed, cottony beneath; fertile catkin egg-shaped; stigmas four.—A tall tree, with smoothish bark and horizontal branches: leaves three-lobed: flowers in March: grows in moist woods: common. *Eng. Bot.* vol. xxiii. pl. 1618. *Eng. Fl.* vol. iv. p. 243. 1445.

2. *P. canescens*. *Grey Poplar*. Leaves roundish, deeply waved,

toothed; hoary beneath; fertile catkins cylindrical; stigmas eight. —A tall tree, with silvery smooth bark and ascending branches: flowers in March: grows near rivers and on dry heaths, in Norfolk. *Eng. Bot.* vol. xxiii. pl. 1619. *Eng. Fl.* vol. iv. p. 243. 1446.

3. *P. tremula*. Trembling Poplar. *Aspen*. Leaves nearly orbicular, toothed, smooth on both sides; leaf-stalks compressed: stigmas four. —A rather tall tree, with smooth bark, remarkable for the fluttering motion of its leaves in the wind, caused by their compressed stalks: flowers in March and April: grows in woods, by the sides of rivers, and in clefts of rock: frequent. *Eng. Bot.* vol. xxvii. pl. 1909. *Eng. Fl.* vol. iv. p. 244. 1447.

4. *P. nigra*. Black Poplar. Leaves deltoid, acute, serrate, smooth on both sides; catkin all loose and cylindrical; stigmas four. —A tall tree, with thick blackish bark, and smooth branches. Flowers in March: grows about the banks of rivers: frequent. *Eng. Bot.* vol. xxvii. pl. 1910. *Eng. Fl.* vol. iv. p. 245. 1448.

### 10. RHODIOLA. ROSE-ROOT.

Barren Flowers. Calyx concave, deeply divided into four equal, obtuse, spreading segments. Petals four, lance-shaped, much longer than the calyx. Nectaries four, glandular, notched, opposite to the petals, shorter than the calyx. Filaments eight, awl-shaped, as long as the petals; anthers roundish. Rudiment of four germens with abortive styles and stigmas.

Fertile Flowers. Calyx as above. Petals smaller. Nectaries as above. Stamens none. Germens four, superior, oblong, three-cornered. Styles short; stigma obtuse. Capsules four, pointed, one-celled. Seeds numerous, roundish.—Name from *rhodon*, a rose, on account of the scent of the root. 454.

1. *R. rosea*. Rose-root. Root thick and fleshy, smelling like roses: stems herbaceous, simple, from five inches to a foot high: leaves numerous, scattered, inversely egg-shaped, pointed, serrate at the end, fleshy, glaucous: cyme many-flowered, yellow. Perennial: flowers in May and June: grows on cliffs along the sea, and on high mountains: very common in the northern parts of Scotland and the Hebrides. *Eng. Bot.* vol. viii. pl. 508. *Eng. Fl.* vol. iv. p. 246. 1449.

## ENNEANDRIA.

### 11. MERCURIALIS. MERCURY.

Barren Flowers. Calyx deeply divided into three egg-shaped spreading segments. Corolla none. Filaments from nine to twelve, hair-like, erect, nearly as long as the calyx; anthers with globular lobes.

Fertile Flowers. Calyx and corolla as above. Germen superior, roundish, compressed, with a furrow on each side, bristly. Styles two, tapering, rough, spreading; stigmas acute. Cap-



sule of two globular lobes, two-celled. Seeds solitary, globular.—Named after (the so-called god) Mercury. 455.

1. *M. perennis*. *Perennial Mercury*. Stem simple; leaves egg-shaped, serrate, rough; root creeping.—Stems about a foot high, square, leafy at the upper part: flowers in axillar spikes: poisonous. Perennial: flowers in April and May: grows in bushy or shady places, on banks, and by walls and hedges: common. *Eng. Bot.* vol. xxvi. pl. 1872. *Eng. Fl.* vol. iv. p. 248. 1450.

2. *M. annua*. *Annual Mercury*. Stem branched; branches opposite, crossing each other; leaves narrow egg-shaped, serrate, smooth; root fibrous.—Stem from six inches to a foot high, erect, bushy, smooth: flowers in axillar spikes: poisonous. Annual: flowers from June to September: grows in waste and cultivated ground: not common. *Eng. Bot.* vol. viii. pl. 559. *Eng. Fl.* vol. iv. p. 248. 1451.

## 12. HYDROCHARIS. FROG-BIT.

Barren Flowers. Calyx deeply divided into three oblong, equal segments, membranous at the edges. Petals three, roundish, undulated, much larger than the calyx. Filaments nine, awl-shaped, erect, in three rows, the middle row producing from its base an awl-shaped beak, the two other rows connected at the base and adhering to the beak; anthers two-lobed, below the summits of the filaments.

• Fertile Flowers. Calyx and petals as above. Germen inferior, roundish. Styles six, compressed, channelled, as long as the calyx. Stigmas cleft, acute. Capsule nearly globular, leathery, six-celled. Seeds numerous, roundish, minute.—Name from *hydor*, water, and *chairō*, to rejoice. 456.

1. *H. Morsus-rance*. *Common Frog-bit*.—Root of long slender fibres: leaves stalked, kidney-shaped, purplish beneath, floating: flowers erect, large, white, yellow in the centre. Perennial: flowers in July: grows in ditches, and slow streams: not common. *Eng. Bot.* vol. xii. pl. 808. *Eng. Fl.* vol. iv. p. 250. 1452.

## MONADELPHIA.

### 13. JUNIPERUS. JUNIPER.

Barren Flowers. Catkin conical, with three or more rows of whorled, imbricated, oval scales, three in each whorl, and one at the end. Corolla none. Filaments in the terminal flower three, awl-shaped, united at the base; in the other flowers hardly perceptible; anthers three; two-lobed, in the terminal flower distinct, in the others fixed to the base of the scale.

Fertile Flowers. Calyx superior, with three very small permanent segments, united to the germen. Petals three, acute, stiff, permanent. Germen roundish. Styles three, very short; stigmas simple. Berry roundish, with three small tubercles at

its lower part, being the points of the calyx now united to the fruit, and three small teeth at the summit, originating from the petals. Seeds oblong, hard, convex externally, angular internally.—Name from *jenevre*, in Celtic, rough. 457.

1. *J. communis*. *Common Juniper*. Leaves three in each whorl, thorn-pointed, spreading, longer than the ripe fruit; stem erect.—A shrub, from two to five feet high, with very numerous branches: leaves linear, channelled and glaucous above: convex and keeled beneath: three in each whorl: flowers axillar, sessile, small: berries globular, bluish-black, sweetish, with a strong taste of turpentine. The berries are used in Holland in the distillation of gin. In this country oil of turpentine is employed for the same purpose. Flowers in May: grows on dry heaths: common. *Eng. Bot.* vol. xvi. pl. 1100. *Eng. Fl.* vol. iv. p. 251. 1453.

2. *J. nana*. *Dwarf Alpine Juniper*. Leaves three in each whorl, thorn-pointed, ascending, as long as the ripe fruit; stem recumbent.—A small shrub with prostrate stems: leaves more or less curved: berries much larger and more oval than in the other species, of which some consider it as a variety. Flowers in May: grows on the higher mountains of Scotland: very abundant in the outer Hebrides, nearly as low as the level of the sea. *Eng. Fl.* vol. iv. p. 252. 1454.

#### 14. TAXUS. YEW.

Barren Flowers. Calyx none; excepting a bud. Corolla none. Filaments numerous, united at their lower part into a column longer than the bud; anthers depressed, with eight rounded segments, opening all round the base, afterwards becoming flat and peltate.

Fertile Flowers. Calyx minute, inferior, cup-shaped, afterwards enlarged, permanent. Corolla none. Germen superior, egg-shaped, acute. Style none; stigma obtuse. Berry formed of the enlarged, pulpy, coloured calyx. Seed one, oblong, projecting beyond the enlarged calyx.—Name from *toxos*, an arrow, because that weapon was anciently poisoned with its juice. 458.

1. *T. baccata*. *Common Yew*. Leaves two-rowed, linear, crowded.—A tree with deciduous bark, and horizontal branches: leaves dark-green, smooth and shining above, paler beneath: flowers axillar, solitary, each from an imbricated bud: berries scarlet. The wood is hard and tough, and is used for cabinet-work: the leaves are fetid and poisonous: the berries have a sweetish taste, and may be eaten with safety. It bears clipping, and forms excellent hedges. Flowers in March and April: grows on rocky places in Cumberland and Westmoreland: very rare in Scotland. *Eng. Bot.* vol. xi. pl. 746. *Eng. Fl.* vol. iv. p. 253. 1455.

## CLASS XXIII. POLYGAMIA.

*Flowers furnished with Stamens and Pistils, and others with Stamens only, or with Pistils only, on the same Plant, or on different Plants of the same species.*

Order I. MONŒCIA. *Flowers different on the same Plant.*

1. A'TRIPLEX. *Perfect Flower.* Calyx inferior, with five deep segments. Corolla none. Stamens five. Style deeply cleft. Seed one, depressed.

*Pistilliferous Flower.* Calyx inferior, with two deep segments. Corolla none. Style deeply cleft. Seed one, compressed.

## POLYGAMIA—MONŒCIA.

## 1. A'TRIPLEX.

*Perfect Flowers.* Calyx inferior, permanent, deeply divided into five equal, egg-shaped, concave segments, membranous at the edges. Corolla none. Filaments five, awl-shaped, as long as the calyx. Anthers round, two-lobed. Germen superior, round, often imperfect. Style short, deeply divided; stigmas simple, spreading. Seed one, round, depressed, invested by a thin pellicle, and covered by the closed, permanent, five-cornered calyx.

*Pistilliferous Flowers.* Calyx inferior, deeply divided into two large, flat, egg-shaped segments. Corolla none. Stamens none. Germen superior, compressed. Style short, deeply divided; stigmas spreading. Seed one, round, compressed, invested by a thin pellicle, and enclosed between the enlarged, heart-shaped leaves of the calyx.—Name from *a*, not, and *traphein*, to nourish. 459.

1. *A. portulacoides.* *Shrubby Orache. Sea Purslane.* Stem shrubby, spreading; leaves lance-shaped, inclining to inversely egg-shaped, entire, tapering at the base.—Stems from one to two feet high, branched, ascending; leaves opposite, stalked, mealy; clusters axillar and terminal: flowers small, yellowish. A shrub: flowers in July and August: grows in muddy places on the sea-coast: not common. *Eng. Bot.* vol. iv. pl. 261. *Eng. Fl.* vol. iv. p. 256. 1456.

2. *A. laciniata.* *Frosted Sea Orache.* Stem herbaceous, spreading; leaves between triangular and egg-shaped, widely toothed, mealy beneath.—Stems about a foot high, mealy, alternately branched: leaves alternate, stalked, entire at the base: perfect flowers in terminal, lobed clusters, their germens commonly about five: fertile flowers axillar, several together. Annual: flowers in July: grows in sand, on the sea-coast: frequent. *Eng. Bot.* vol. iii. pl. 165. *Eng. Fl.* vol. iv. p. 257. 1457.

3. *A. patula.* *Spreading Halbert-shaped Orache.* Stem herbaceous, spreading; leaves between lance-shaped and triangular, some-

what halbert-shaped; calyx of the fruit tuberculated at the sides. —Stem and leaves dull-green, slightly mealy, often reddish. Annual: flowers in June and July: grows in cultivated and waste ground: common. *Eng. Bot.* vol. xiii. pl. 936. *Eng. Fl.* vol. iv. p. 257. 1458.

4. *A. angustifolia*. *Spreading Narrow-leaved Orache*. Stem herbaceous; leaves lance-shaped, entire, the lower ones three-lobed; calyx of the fruit halbert-shaped, slightly tuberculated at the sides. —Resembles the former, of which it is probably only a variety. Annual: flowers in July: grows in cultivated and waste ground: common. *Eng. Bot.* vol. xxv. pl. 1774. *Eng. Fl.* vol. iv. p. 259. 1459.

5. *A. erecta*. *Upright Spear-leaved Orache*. Stem herbaceous, erect; leaves broadly lance-shaped, the lower ones sinuate; calyx of the fruit covered with sharp tubercles. —Leaves alternate,

vol. iv. p. 259.

1460.

6. *A. littoralis*. *Grass-leaved Sea Orache*. Stem herbaceous, erect; leaves all linear, entire or toothed; calyx of the fruit sinuated and covered on the back with sharp tubercles. Annual: flowers in August and September: grows on the sea-shore: frequent. *Eng. Bot.* vol. x. pl. 708. *Eng. Fl.* vol. iv. p. 260. 1461.

7. *A. pedunculata*. *Stalked Sea Orache*. Stem herbaceous, undulated, spreading; leaves inversely egg-shaped, entire; seed-bearing flowers stalked, wedge-shaped. —Stem and leaves mealy. Annual: flowers in August and September: grows on the sea-coast of the south of England and Ireland: frequent. *Eng. Bot.* vol. iv. pl. 232. *Eng. Fl.* vol. iv. p. 261. 1462.

## CLASS XXIV. CRYPTOGRAMIA.

*Plants presenting none of the characters of the preceding classes.*

(Only three of the Orders of this very extensive Class are here given.)

Order I. FERNS. *Plants consisting of a Frond, with dorsal or terminal fructification.*†

\* *Capsules in masses, or Sori, on the back of a leafy frond, each capsule two-valved, bound with a jointed, elastic ring.*

1. GRAMMITIS. *Sori* oblong, straight, scattered. *Cover* none.

† A few additional terms are employed in this order;—

A *frond* is a leaf bearing the fructification.

The *stalk* of the frond is the part which elevates it from the ground.

The *shaft* is the direct continuation of the stalk.

The *partial stalks* are the branches of the shaft.

The *central rib* is the rib or vein which runs along the middle of the ultimate divisions of the frond.

*Sori*, masses or groups of capsules, arranged on the back of the frond.

*Covers*, membranous coverings for the sori.

2. **POLYPODIUM.** *Sori* roundish, scattered. *Cover* none.
3. **WOODSIA.** *Sori* roundish, scattered. *Cover* fixed by a central stalk under each sorus, its margin divided into several hair-like segments.
4. **ASPIDIUM.** *Sori* roundish, scattered. *Cover* round, fixed by the centre, separating all round.
5. **CYSTEA.** *Sori* roundish, scattered. *Cover* round, concave, fixed beneath by a lateral point, finally jagged and reflected.
6. **ASPLENIUM.** *Sori* linear, scattered. *Cover* linear, opening at one side, towards the central rib or vein.
7. **SCOLOPENDRIUM.** *Sori* linear, scattered in pairs, between two parallel veins. *Covers* two, linear, opposite.
8. **BLECHNUM.** *Sori* linear, single, close to the central rib. *Cover* linear, flat, opening towards the rib.
9. **PTELEIS.** *Sori* linear, contiguous, marginal. *Cover* formed of the inflected margin of the frond, opening inwards.
10. **ADIANTUM.** *Sori* oblong or roundish. *Covers* formed of separate portions of the margin turned in.
11. **TRICHOMANES.** *Sori* oblong, imbedded in the edge of the frond. *Cover* marginal, pitcher-shaped, of one leaf, opening outwards.
12. **HYMENOPHYLLUM.** *Sori* roundish, imbedded in the edge of the frond. *Cover* marginal, compressed, two-valved, opening outwards.

\*\* *Capsules destitute of a ring, in terminal spikes.*

13. **OSMUNDA.** *Suster* branched. *Capsules* stalked, globular.
14. **BOTRYCHIUM.** *Common stalk* compound, flattened.
15. **OPHIOGLOSSUM.** *Spike* two-rowed.

Order II. **LYCOPODINEÆ.** *Plants having axillar or spiked Capsules upon Stems furnished with numerous small undivided leaves.*

1. **LYCOPODIUM.**

Order III. **EQUISETACEÆ.** *Plants having a terminal spike, consisting of angular scales bearing Capsules, containing numerous Seeds, each furnished with four Stamens.*

1. **EQUISETUM.**

Order I. **FERNS.** *Plants consisting of a Frond, with dorsal or terminal fructification.*

1. **GRAMMITIS.** **GRAMMITIS.**

*Sori* oblong or somewhat linear, straight, scattered. *Cover* wanting, or reduced to a narrow membrane attached to the lower margin of each sorus.—Name from *gramme*, the Greek for a line, from the lines of fructification. 460.

1. *G. Ceterach.* *Scaly Grammitis*, or *Hart's-tongue*. Frond pin-natifid, scaly at the back.—Frond from three to six inches high,

leathery, oblong, deep-green. Perennial: bears fruit through the greater part of the year: grows on walls and rocks: common in the south of England, and in Ireland, rare in Scotland. *Eng. Bot.* vol. xviii. pl. 1244. *Scolopendrium Ceterach.* *Eng. Fl.* vol. iv. p. 315. 1463.

## 2. POLYPODIUM. POLYPODY.

Sori roundish, convex, scattered over the back of the frond, in rows, between the central rib of each lobe and the margin. Cover none. Capsules very numerous, globular, on hair-like stalks, one-celled, two-valved, bound by a jointed ring. Seeds numerous, very minute.—Name from *polys*, many, and *pous*, a foot. 461.

### \* *Frond pinnatifid.*

1. *P. vulgare.* Common *Polypody.* Frond deeply pinnatifid, with oblong, obtuse, somewhat serrate lobes; root scaly.—Frond from six inches to a foot high, between linear and lance-shaped. Perennial: bears fruit from May to November: grows on rocks, walls, dry banks, and trunks of old trees: common. *Eng. Bot.* vol. xvi. pl. 1149. *Eng. Fl.* vol. iv. p. 281. 1464.

### \*\* *Frond twice pinnatifid.*

2. *P. Phegopteris.* Pale Mountain *Polypody.* Fronds pinnate, with lance-shaped leaflets, united at the base, their segments obtuse; the two lowermost leaflets deflected; veins hairy; sori near the edges of the segments.—Root thread-shaped, slightly scaly: stalk long, slender, scaly, as well as the shaft and partial stalks: fronds a foot and a half high, minutely hairy, pale-green. Perennial: bears fruit in June and July: grows in the clefts of rocks: common in Scotland and Ireland, less so in England. *Eng. Bot.* vol. xxxi. pl. 2224. *Eng. Fl.* vol. iii. p. 282. 1465.

### \*\*\* *Fronds thrice compound.*

3. *P. Dryopteris.* Tender Three-branched *Polypody.* Fronds ternate, each division twice pinnate, loosely spreading, the segments obtuse, somewhat crenate; root and stalk thread-shaped; sori scattered, separate.—Fronds from six inches to a foot high, bright-green, smooth and delicate. Perennial: bears fruit in July: grows in shady places: common in Scotland. *Eng. Bot.* vol. ix. pl. 616. *Eng. Fl.* vol. iv. p. 283. 1466.

4. *P. caledreum.* Stiff Three-branched *Polypody.* Fronds ternate, each division twice pinnate, erect, somewhat stiff, the segments obtuse, somewhat crenate; sori crowded, finally confluent.—Perennial: bears fruit in July: grows in rocky ground: rare. About Matlock-bath in Derbyshire. *Eng. Bot.* vol. xxii. pl. 1525. *Eng. Fl.* vol. iv. p. 283. 1467.

## 3. WOODSIA. WOODSIA.

Sori roundish, convex, scattered on the veins at the back of the frond. Cover lying under the sorus, its margin deeply divided into taper-pointed segments, curved over the capsules, permanent. Capsules several, stalked, crowded, bound by a ring, and opening irregularly at the sides. Seeds numerous, kidney-shaped.—Named after Mr. Woods, an English botanist. 462.

1. *W. hyperborea*. *Round-leaved Woodsia*. Fronds hairy beneath, lance-shaped, pinnate; leaflets heart-shaped, pinnatifid, their segments rounded.—Fronds from two to three inches high. Perennial: grows on Snowdon in Wales, Ben Lawers and Clova mountains in Scotland. *Eng. Bot.* vol. xxix. pl. 2023: *Polypodium hyperboreum*. *Eng. Fl.* vol. iv. p. 323. 1468.

2. *W. Iboensis*. *Oblong-leaved Woodsia*. Fronds scaly beneath, lance-shaped, pinnate; leaflets oblong, pinnatifid with oblong segments.—Fronds from two to three inches high. Perennial: bears fruit from July to September: grows on rocks in Wales and the north of England: rare. *Eng. Fl.* vol. iv. p. 322. 1469.

#### 4. ASPIDIUM. SHIELD-FERN.

Sori round, convex, scattered over the back of the frond, in rows, between the central rib of each lobe and the margin. Covers orbicular or kidney-shaped. Capsules very numerous, globular, on hair-like stalks, one-celled, two-valved, bound by a jointed ring. Seeds numerous, roundish, very minute.—Named from *aspis*, a shield. 463.

##### • *Frond pinnate.*

1. *A. Lonchitis*. *Rough Alpine Shield-fern*. Frond between lance-shaped and linear, pinnate; leaflets crescent-shaped, lobed above at the base, bristly-serrate, the upper ones only bearing fruit; stalk scaly.—Fronds from six to nine inches high, deep-green. Perennial: bears fruit in May and June: grows in clefts of the rocks in the Highlands of Scotland, and in Wales. *Eng. Bot.* vol. xii. pl. 797: *Polypodium Lonchitis*. *Eng. Fl.* vol. iv. p. 284. 1470.

##### \*\* *Frond more or less twice pinnate.*

2. *A. Thelypteris*. *Marsh Shield-fern*. Frond pinnate; leaflets between linear and lance-shaped, deeply pinnatifid, slightly downy, somewhat crenate, the lower segments elongated; sori globular, finally confluent.—Root creeping: fronds upwards of a foot high, deep-green. Perennial: bears fruit in July: grows in marshes and boggy meadows: common. *Eng. Bot.* vol. xv. pl. 1018: *Polypodium Thelypteris*. *Eng. Fl.* vol. iv. p. 285. 1471.

3. *A. Oreopteris*. *Heath Shield-fern*. Frond pinnate; leaflets lance-shaped, entire, sprinkled on the back with resinous globules; sori nearly marginal, finally confluent.—Fronds about a foot high, erect, lance-shaped, with very short, scaly stalks. Perennial: bears fruit in July: grows in dry woods and on heaths: common, especially in Scotland. *Eng. Bot.* vol. xv. pl. 1019: *Polypodium Oreopteris*. *Eng. Fl.* vol. iv. p. 286. 1472.

4. *A. Filix-mas*. *Male Shield-fern*. Frond twice pinnate; leaflets oblong, obtuse, serrate; sori near the central rib, stalk and shaft scaly.—Fronds three feet high, erect, lance-shaped, with short stalks. Perennial: bears fruit in June and July: grows in woods and on shady banks: common. *Eng. Bot.* vol. xxi. pl. 1458. *Eng. Fl.* vol. iv. p. 288. 1473.

5. *A. cristatum*. *Crested Shield-fern*. Frond almost twice pinnate; leaflets decurrent, egg-shaped, obtuse, crenate, or pinnatifid, with acute terminal teeth; sori in the middle, between the central

rib and margins; stalk scaly at the base.—Fronds two feet high, erect, narrow below, yellowish-green, with longish stalks. Perennial: bears fruit in August: grows on boggy heaths in England: rare. *Eng. Bot.* vol. xxx. pl. 2125. *Eng. Fl.* vol. iv. p. 289. 1474.

6. *A. aculeatum*. *Common Prickly Shield-fern*. Frond twice pinnate; leaflets egg-shaped, pointed, stalked; somewhat crescent-shaped, fringed with prickly serratures; stalk and central ribs scaly.—Fronds about two feet high, lance-shaped, dark-green. Perennial: bears fruit in July: grows in woods and shady places: common. *Eng. Bot.* vol. xxii. pl. 1562. *Eng. Fl.* vol. iv. p. 290. 1475.

7. *A. angulare*. *Angular-leaved Shield-fern*. Frond twice pinnate; leaflets egg-shaped, bluntish, stalked, fringed with bristly serratures, each leaflet with a lateral lobe at the base, the lowermost elongated; stalks and ribs scaly.—Perennial: bears fruit in July: grows in woods and shady places. *Eng. Fl.* vol. iv. p. 291. 1476.

8. *A. lobatum*. *Close-leaved Prickly Shield-fern*. Frond twice pinnate; leaflets elliptical, pointed, decurrent, somewhat serrate; stalk and shaft scaly.—Perennial: bears fruit in July: grows on shady hedge-banks: common. *Eng. Bot.* vol. xxii. pl. 1563. *Eng. Fl.* vol. iv. p. 291. 1477.

9. *A. spinulosum*. *Prickly-toothed Shield-fern*. Frond somewhat triangular, smooth, twice pinnate; leaflets decurrent, elliptical, deeply serrate, with prickly teeth, their central rib undulated; stalk elongated, scaly at the base.—Fronds about a foot high, smooth, light-green. Perennial: bears fruit in June and July: grows in marshy places: found by Withering on Birmingham heath, and in Devonshire. *Eng. Bot.* vol. xxi. pl. 1460. *Eng. Fl.* vol. iv. p. 292. A variety with the lower primary leaflets, twice pinnate, and not pinnate, is the *A. dilatatum*, *Broad Sharp-toothed Shield-fern*. *Eng. Bot.* vol. xxi. pl. 1461. *Eng. Fl.* vol. iv. p. 293. 1478.

10. *A. filix-femina*. *Female Shield-fern*. Frond twice pinnate; leaflets between oblong and linear, pinnatifid, serrate, pointless; stalk smooth; sori oblong.—Fronds about two feet high, lance-shaped, deep-green. Perennial: bears fruit in June and July: grows in moist shady places: common. *Eng. Bot.* vol. xxi. pl. 1459. *Eng. Fl.* vol. iv. p. 295. A small variety has been described as distinct, under the name of *A. irrigium*, *Brook Shield-fern*. *Eng. Bot.* pl. 2199. *Eng. Fl.* vol. iv. p. 296. 1479.

#### CYSTE'A. BLADDER-FERN.

Sori round, convex, variously scattered over the back of the frond, between the central rib of each leaflet or lobe and the margin. Cover white, round, concave, fixed by a narrow point at the side of each sorus beneath. Capsules several, globular, on short stalks, each one-celled, two-valved, bound by a jointed ring. Seeds numerous, roundish, very minute.—Name from *ciste*, a little box. 464.

1. *C. fragilis*. *Brittle Bladder-fern*. Frond between oblong and lance-shaped, twice pinnate; leaflets egg-shaped, pinnatifid, the lobes toothed or serrate; partial stalks bordered; sori crowded.—Fronds from four to ten inches high, smooth, bright-green;



stalk slender, dark and polished, with a few scales at the base. Perennial: bears fruit in June and July: grows on wet shady rocks and in stony places: common, especially in Scotland. *Eng. Bot.* vol. xxiii. pl. 1587. *Eng. Fl.* vol. iv. p. 299. 1480.

2. *C. dentata*. *Toothed Bladder-fern*. Frond between oblong and lance-shaped, twice pinnate; leaflets egg-shaped, obtuse, pinatifid; the segments oblong, obtuse, toothed, partial stalks bordered.—Fronds from four to ten inches high. Perennial: bears fruit in July: grows in the clefts of rocks, in Wales and the Highlands of Scotland. *Eng. Bot.* vol. xxiii. pl. 1588. *Eng. Fl.* vol. iv. p. 155. A common variety of this plant, with broader fronds, between oblong and egg-shaped, has been described as the *C. angustata*, *Deeply-cut Mountain Bladder-fern*. *Eng. Fl.* vol. iv. p. 301. 1481.

## 6. ASPLENIUM. \* SPLEENWORT.

Sori linear, straight, parallel, scattered obliquely over the back of the fronds, between the central rib of each leaflet or lobe, and the next rib or vein. Cover membranous, continuous, straight, linear, arising from a vein, and opening at the opposite margin, towards the central rib or vein. Capsules numerous, globular, stalked, one-celled, two-valved, with a jointed ring.—Name from *a*, without, and *splen*, the spleen. 465.

1. *A. Trichomanes*. *Common Maidenhair Spleenwort*. Frond linear, pinnate; leaflets broadly oblong, or roundish, crenate; stem and shaft coloured, shining, keeled beneath.—Fronds from four to eight inches high, with a brown stem and shaft, and dark-green leaflets. Perennial: bears fruit from May to December: grows on shady rocks and walls: common. *Eng. Bot.* vol. viii. pl. 576. *Eng. Fl.* vol. iv. p. 305. 1482.

2. *A. viride*. *Green Maidenhair Spleenwort*. Frond linear, pinnate; leaflets obliquely egg-shaped, somewhat acute, widely and obtusely serrate; shaft keeled beneath.—Fronds about five inches long, bright-green: stalk reddish-brown: shaft green. Perennial: bears fruit in June and July: grows on rocks, in the Highlands of Scotland, the north of England and Wales: common. *Eng. Bot.* vol. xxxii. pl. 2257. *Eng. Fl.* vol. iv. p. 306. 1483.

3. *A. marinum*. *Sea Spleenwort*. Frond lance-shaped, pinnate; leaflets obliquely egg-shaped, very obtuse, obtusely crenate; the shaft coloured along the back.—Frond about eight inches high, rather stout, firm, dark green; stem and the back of the shaft dark-brown. Perennial: bears fruit in June and July: grows on rocks along the coast: common in Scotland. *Eng. Bot.* vol. vi. pl. 392. *Eng. Fl.* vol. iv. p. 307. 1484.

4. *A. Ruta-muraria*. *Wall-rue Spleenwort*. Frond alternately twice compound; leaflets broadly diamond-shaped, notched on the two upper edges.—Fronds from two to four inches high. Perennial: bears fruit from June to October: grows on rocks and old walls: common. *Eng. Bot.* vol. iii. pl. 150. *Eng. Fl.* vol. iv. p. 309. 1485.

5. *A. alternifolium*. *Alternate-leaved Spleenwort*. Frond pinnate; leaflets alternate, wedge-shaped, notched at the end.—Fronds from three to six inches high, with brown shining stalks. Perennial: bears fruit from June to October: grows on rocks, near Kelso

and Perth. Fronds having the above characters sometimes grow from the same root with others having the characters of *A. Rutamuraria*. *Eng. Bot.* vol. xxxii. pl. 2258. *Eng. Fl.* vol. iv. p. 309. 1486.

6. *A. septentrionale*. *Forked Spleenwort*. Fronds two or three-cleft; segments linear, pointed and jagged at the summit.—Fronds in a dense tuft, erect, consisting of a thread-shaped stalk, divided at the top into two or three narrow segments. Perennial: bears fruit from June to October: grows on rocks in Scotland, Wales, and north of England. *Eng. Bot.* vol. xv. pl. 1017. *Eng. Fl.* vol. iv. p. 308. 1487.

7. *A. Adiantum-nigrum*. *Black Maidenhair Spleenwort*. Frond between lance-shaped and triangular, alternately thrice pinnate; leaflets lance-shaped, pointed, deeply serrate.—Fronds about a foot high: stalks scaly at the base, dark-brown, shining. Perennial: bears fruit from June to October: grows on rocks, walls, and shady banks: common. *Eng. Bot.* vol. xxviii. pl. 1950. *Eng. Fl.* vol. iv. p. 310. 1488.

8. *A. lanceolatum*. *Green Lance-shaped Spleenwort*. Frond lance-shaped, twice pinnate; leaflets and segments deeply toothed.—Fronds six or eight inches high: stalks brown at the base. Perennial: bears fruit from June to October: grows on rocks and old walls, in the south of England: very rare. Jersey; near Bath, Cornwall, and Oxfordshire. *Eng. Bot.* vol. iv. pl. 240. *Eng. Fl.* vol. iv. p. 311. 1489.

9. *A. fontinum*. *Smooth Rock Spleenwort*. Frond between lance-shaped and linear; leaflets and segments wedge-shaped, deeply toothed; stem and partial stalks bordered.—Fronds from two to six inches high, very smooth. Perennial: bears fruit from June to September: grows on rocks and old walls, in England: very rare. Found by Mr. Bradney, on Amersham church, Bucks. *Eng. Bot.* vol. xxix. pl. 2024. 1490.

## 7. SCOLOPENDRIUM. HART'S-TONGUE.

Sori linear, straight, in pairs, scattered obliquely over the back of the frond, each pair between two parallel veins. Covers membranous, continuous, linear, their edges folded over the capsules, finally separating. Capsules numerous, stalked, globular, two-valved, with a jointed ring. Seeds numerous, minute.—Named from the lines of fructification resembling the feet of a *scolopendra*. 466.

1. *S. vulgare*. *Common Hart's-tongue*. Frond lance-shaped, heart-shaped at the base, smooth; stalk and shaft scaly.—Fronds a foot or more high, deep grass-green. Perennial: bears fruit in July: grows on rocks, walls, and banks. *Eng. Bot.* vol. xvi. pl. 1156. *Eng. Fl.* vol. iv. p. 314. 1491.

## 8. BLECHNUM. HARD-FERN.

Sori linear, straight, continuous, parallel to the central rib on each side, at the back of each segment of the fertile fronds. Cover membranous, linear, continuous, arising from near the margin of the frond and opening towards the rib. Capsules numerous, stalked, globular, two-valved, with a jointed ring. Seeds numerous, minute.—Name, *blechnon*, the Greek for a fern. 467.

1. *B. boreale*. *Northern Hart-fern*. Fronds smooth, pinnate, pectinate; leaflets linear, entire, dilated at the base.—Fronds about a foot high, some bearing fruit, others none; the latter narrow lance-shaped, tapering at the base, with hardly any stalk, their alternate leaflets slightly curved upwards: the former with much narrower leaflets, more dilated at the base, curved downwards, the stalk long and dark-brown. Perennial: bears fruit in July: grows in woods and heathy places: common. *Eng. Bot.* vol. xvii. pl. 1159. *Eng. Fl.* vol. iv. p. 317. 1492.

#### 9. PTERIS. BRAKE.

Sori linear, continuous, close to the margin, at the back of each segment of the fertile fronds. Cover membranous, continuous, formed by the inflected margin of the frond, opening at its inner edge. Capsules numerous, stalked, globular, two-valved, with a jointed ring. Seeds numerous, minute.—Name, *pteris*, in Greek, a fern. 468.

1. *P. aquilina*. *Common Brake*. Frond thrice divided; divisions lance-shaped, their leaflets alternate, narrow lance-shaped, pinnate, the uppermost entire; segments somewhat lance-shaped, obtuse.—Fronds from two to four feet high. It is used for thatching cottages, for which purpose it is better adapted than almost any of our native plants, excepting ling and broom. The ashes afford a pretty good alkali. Perennial: bears fruit in July and August: grows on heaths, and in pastures and woods: common. *Eng. Bot.* vol. xxiv. pl. 1679. *Eng. Fl.* vol. iv. p. 318. 1493.

2. *P. crispa*. *Curled Brake*. Barren frond alternately twice pinnate, with inversely egg-shaped, cut, or deeply crenate segments; fertile fronds thrice pinnate, with narrow oblong segments.—Fronds from six to twelve inches high, with long slender stalks. Perennial: bears fruit from June to October: grows in stony mountainous places in Scotland, the north of England and Wales. *Eng. Bot.* vol. xvii. pl. 1160. *Eng. Fl.* vol. iv. p. 319. 1494.

#### 10. ADIANTUM. MAIDEN-HAIR.

Sori roundish, marginal, distinct, at the back of the frond, each attached to the centre of the under side of its cover, which is formed by the inflected margin of the frond. Capsules several, stalked, globular, two-valved, with a jointed ring. Seeds minute.—Name from *adiantos*, that which is of a dry nature. 469.

1. *A. Capillis-Veneris*. *True Maiden-hair*. Frond twice compound; leaflets alternate, wedge-shaped, lobed on hair-like stalks.—Fronds from six to twelve inches high, with slender dark-purplish stalks. Perennial: bears fruit from May to September: grows on rocks and walls: rare. *Eng. Bot.* vol. xxii. pl. 1564. *Eng. Fl.* vol. iv. p. 320. 1495.

#### 11. TRICHOMANES. BRISTLE-FERN.

Sori oblong or roundish, terminal, imbedded in the margin, on segment of the frond. Cover pitcher-shaped, of the same texture as the frond, and continuous with it, of one leaf opening outwards, permanent. Capsules sessile, roundish, two-valved, with a jointed ring, crowded at the base of a cylindrical common

receptacle, with a hair-like naked point projecting beyond the cover.—Name from *thrix*, a hair, and *mania*, excess. 470.

1. *T. brevisetum*. *Bristle-fern*. Frond thrice pinnatifid, smooth; segments linear, entire; stalk winged.—Fronde four or five inches high, oblong, with decurrent deep-green segments. Perennial: bears fruit in May and June: Belbank, near Bingley, Yorkshire; Killarney and Wicklow, Ireland. *Eng. Bot.* vol. xx. pl. 1417: *Hymenophyllum alatum*. *Eng. Fl.* vol. iv. p. 325. 1496.

## 12. HYMENOPHYLLUM. FILMY-FERN.

Sori roundish, terminal, imbedded in the segments of the frond. Cover compressed, of the same texture as the frond and continuous with it, of two equal valves, opening outwards, permanent. Capsules several, sessile, roundish, two-valved, with a jointed ring, crowded at the base of a permanent, cylindrical, common receptacle, with a hair-like point not projecting beyond the cover.—Name from *hymen*, a membrane, and *phyllon*, a leaf. 471.

1. *H. Tunbridgensis*. *Tunbridge Filmy-fern*. Frond tender, pinnate, smooth, the linear segments and covers acutely toothed; the shaft strongly winged.—Fronde two or three inches high, with hair-like stalks. Perennial: bears fruit in May and June: grows among moss in moist rocky places in the north of England, in Ireland and Wales. *Eng. Bot.* vol. iii. pl. 162. *Eng. Fl.* vol. iv. p. 326. 1497.

2. *H. Wilsoni*. *Scottish Filmy-fern*. Fronde stiff, pinnate, the linear segments acutely toothed; covers entire; the shaft slightly margined.—Perennial: bears fruit in May and June: grows among moss in moist rocky places. North of England and Wales: common in Scotland and Ireland. *Brit. Fl.* p. 448. 1498.

## 13. OSMUNDA. FLOWERING-FERN.

Capsules clustered, distinct, stalked, nearly globular, one-celled, with two incomplete equal valves. Cover none. Seeds numerous, minute.—Name of Saxon origin: *Osmunder* was one of the names of Thor. 472.

1. *O. regalis*. *Osmund Royal*. *Flowering-fern*. Fronde twice pinnate; leaflets oblong, nearly entire, dilated at the base; clusters paniced, terminal.—Frond from two to four feet high: the most beautiful of our ferns. Perennial: bears fruit in June and July: grows in watery places: not common: frequent in the outer Hebrides and South of Ireland. *Eng. Bot.* vol. iii. pl. 209. *Eng. Fl.* vol. iv. p. 327. 1499.

## 14. BOTRYCHIUM. MOONWORT.

Capsules distinct, sessile, on the upper side of a branched, flattened, common stalk, nearly globular, one-celled, with two equal valves. Cover none. Seeds numerous, minute.—Name from *botrus*, a bunch of grapes. 473.

1. *B. Lundia*. *Common Moonwort*. Stalk with a single pinnate leaf; leaflets kidney-shaped, entire.—From two to five inches

high: stalk sheathed at the base bearing a leaf about the middle, and terminating in a twice compound spike. Perennial: bears fruit in July and August: grows in dry pastures among short grass: frequent. *Eng. Bot.* vol. v. pl. 318: *Osmunda Lunaria*. *Eng. Fl.* vol. iv. p. 328. 1500.

### 15. OPHIOGLOSSUM. ADDER'S-TONGUE.

Capsules roundish, one-celled, two-valved, connate, in two opposite rows, upon a simple, linear, somewhat compressed spike. Cover none. Seeds numerous, minute.—Name from *ophis*, a snake, and *glossa*, the tongue. 474.

1. *O. vulgatum*. *Common Adder's-tongue*. Leaf egg-shaped, about as long as the spike. Stem slender, about eight inches high, bearing a simple leaf, and terminating in a slender spike, which would have some resemblance to the tongue of a snake, were the latter not forked. Perennial: bears fruit in June and July: grows in moist pastures and in woods: frequent. *Eng. Bot.* vol. ii. pl. 108. *Eng. Fl.* vol. iv. p. 330. 1501.

Order II. LYCOPODINEÆ. *Capsules axillar or spiked, with from one to three cells, and from two to three valves. Seeds numerous, very minute.*

### 1. LYCOPODIUM. CLUB-MOSS.

Capsules axillar, solitary, sessile, roundish, one-celled, two-valved. Seeds numerous, chaffy, very minute.—Name from *lycos*, a wolf, and *pous*, a foot. 475.

1. *L. clavatum*. *Common Club-moss*. Stem creeping, branched; branches ascending; leaves scattered, incurved, hair-pointed; spikes in pairs, cylindrical, stalked, with egg-shaped, membranous leaves.—Stems several feet long: leaves crowded, narrow, and lance-shaped. The seeds explode when kindled, and are said to be used for artificial lightning on the stage. Perennial: bears fruit in July and August: grows on heaths: common. *Eng. Bot.* vol. iv. pl. 224. *Eng. Fl.* vol. iv. p. 331. 1502.

2. *L. inundatum*. *Marsh Club-moss*. Stem creeping, slightly branched; leaves scattered, narrow lance-shaped, pointless, entire; spikes solitary.—Stems three or four inches long. Perennial: bears fruit in June and July: grows in wet heathy places: rare. *Eng. Bot.* vol. iv. pl. 239. *Eng. Fl.* vol. iv. p. 332. 1503.

3. *L. selaginoides*. *Prickly Club-moss*. Stems creeping; branches ascending, simple; leaves scattered, lance-shaped, fringed; spikes terminal, solitary, with broader leaves.—Stems short, the branches rising to the height of from two to four inches. Perennial: bears fruit in August: grows in watery places, in mountainous situations: frequent. *Eng. Bot.* vol. xvi. pl. 1148. *Eng. Fl.* vol. iv. p. 332. 1504.

4. *L. selago*. *Fir Club-moss*. Stems erect, forked, the branches level at the top; leaves in eight rows, uniform, narrow lance-shaped, acute, entire.—Stem from three to six inches high, forked from the base, four times. Perennial: bears fruit in July and August:

grows near the summit of high mountains: common. *Eng. Bot.* vol. iv. pl. 233. *Eng. Fl.* vol. iv. p. 333. 1505.

5. *L. annotinum*. *Interrupted Club-moss*. Stems decumbent at the base; branches ascending, forked; leaves in five rows, narrow lance-shaped, acute, minutely serrate; spikes cylindrical, solitary, sessile. — From six to eight inches high. Perennial: bears fruit in July and August: grows on the mountains of Scotland and Wales. *Eng. Bot.* vol. xxiv. pl. 1727. *Eng. Fl.* vol. iv. p. 334. 1506.

6. *L. alpinum*. *Savin-leaved Club-moss*. Stems prostrate; branches in tufts, erect, forked, level-topped; leaves acute, keeled, imbricated in four rows; spikes terminal, solitary, sessile, cylindrical, their leaves broadly lance-shaped, flat. — Perennial: bears fruit in August: grows on the higher mountains of Scotland, Wales, and the north of England: frequent. *Eng. Bot.* vol. iv. pl. 234. *Eng. Fl.* vol. iv. p. 335. 1507.

Order III. EQUISETACEÆ. *Fructification terminal, spiked, consisting of many peltate, angular, stalked scales, which bear at the back from four to seven oblong membranous cells, each containing numerous minute seeds, encompassed by four filaments, terminating in four flat anthers.*

#### 1. EQUISETUM. HORSE-TAIL.

Spike oblong, of many peltate, stalked scales, arranged on a common stalk. Scales angular, bearing at the back from four to seven oblong membranous cells, parallel to each other, finally bursting into two equal valves. Seeds globular, very minute, having four spiral filaments attached to their base, which terminate each in a flat appendage or anther, producing pollen. — Name from *equus*, a horse, and *seta*, a hair. 476.

1. *E. arvense*. *Corn Horse-tail*. Sterile stems decumbent at the base, with undivided, angular, roughish, ascending branches; fertile stems erect, destitute of branches, their sheaths distant, deeply toothed. — Fertile stems about eight inches high, appearing before the sterile ones, which are from one to two feet high. Perennial: flowers in March and April: grows in fields and meadows: common. *Eng. Bot.* vol. xxix. pl. 2020. *Eng. Fl.* vol. iv. p. 337. 1508.

2. *E. Drummondii*. *Blunt-topped Horse-tail*. Sterile stems striate, rough with prominent points, with undivided, angular, rough branches; fertile stems erect, destitute of branches, their sheaths approximated, with narrow, tapering teeth. — Perennial: flowers in April. Found by Mr. T. Drummond, in Forfarshire. Hooker. *Brit. Fl.* p. 451. 1509.

3. *E. fluviatile*. *Great Water Horse-tail*. Sterile stems with very numerous undivided, angular, roughish branches: fertile stems unbranched, their sheaths crowded, deeply toothed. — Fertile stems from one to two; sterile ones from two to four feet high. Perennial: flowers in April: grows at the edges of rivers and lakes: frequent. *Eng. Bot.* vol. xxix. pl. 2022. *Eng. Fl.* vol. iv. p. 337. 1510.

4. *E. sylveticum*. *Wood Horse-tail*. Sterile and fertile stems

with compound, four-sided, smooth branches, curved downwards. —Stems about a foot high, erect, with short branches, each whorl with a pale-brown torn sheath above it: spike oblong. Perennial: flowers in April and May: grows in moist woods: frequent. *Eng. Bot.* vol. xxvii. pl. 1874. *Eng. Fl.* vol. iv. p. 336.

1511.

5. *E. limosum*. *Smooth Naked Horse-tail*. Sterile and fertile stems naked, or branched at the upper part; the branches about fifteen in each whorl, simple, smooth, ascending. —Stems from two to three feet high, smooth to the touch, furrowed, sometimes branchless, more frequently branched: spike small, oblong. Perennial: flowers in June and July: grows in marshes and at the edges of lakes and rivers: frequent. *Eng. Bot.* vol. xiii. pl. 922. *Eng. Fl.* vol. iv. p. 339.

1512.

6. *E. palustre*. *Marsh Horse-tail*. Sterile and fertile stems deeply furrowed, branched throughout; branches about ten in each whorl, minutely roughish, erect. —Stems about two feet high: spike cylindrical. Perennial: flowers in June and July: grows in watery places: frequent. *Eng. Bot.* vol. xxix. pl. 2021. *Eng. Fl.* vol. iv. p. 338.

1513.

7. *E. hyemale*. *Greater Rough Horse-tail*. Sterile and fertile stems generally branchless, sometimes branched at the base, very rough, furrowed; sheaths whitish, black at the top and bottom, their teeth pointed, deciduous. —Stems from one to two feet high: spike elliptical. Perennial: flowers in July and August: grows in boggy woods: not common. The cuticle of all the Equiseta contains siliceous earth, on which account they are used for polishing wood and metals. This species is more eminently qualified for that purpose, and is largely imported from Holland. *Eng. Bot.* vol. xiii. pl. 915. *Eng. Fl.* vol. iv. p. 339.

1514.

8. *E. variegatum*. *Variegated Rough Horse-tail*. Stems branchless, very rough, branched at the base; sheaths black, with white membranous, lance-shaped teeth. —Stems about eight inches high, ascending, furrowed. Perennial: flowers in July and August: found by Mr. G. Don on the sands of Barry, Angus-shire, and by Mr. W. Wilson in Lancashire, and in Ireland. *Eng. Bot.* vol. xxviii. pl. 1987. *Eng. Fl.* vol. iv. p. 341.

1515.

Besides the Ferns, Lycopodiaceæ, and Equisetaceæ, of which the species are briefly described above, there are in this class the Mosses, Lichens, Algæ, Fungi, and other groups or orders, the description of which must be sought in other works.

Of the PHENOGAMOUS PLANTS, or those belonging to the first twenty-three classes of the Linnæan system, 1462 species, arranged in 459 genera, have been enumerated and characterized, in the preceding pages.

Of the CRYPTOGAMOUS PLANTS, or those forming the twenty-fourth or last class, there have been briefly described only 53 species, disposed in 17 genera.

## GLOSSARY OF TERMS.

- ABRUPT*, with the extremity cut off, as it were, by a transverse line, f. 5, 54.
- Abruptly pinnate*, without a terminal leaflet or tendril, f. 79.
- Acute*, ending in a point, f. 57.
- Acuminate*, taper-pointed, f. 58.
- Aggregate flowers*, when several flowers, generally stalked, and with separated anthers, are enclosed in a common calyx.
- Alternate*, coming off one by one, in different directions, f. 22.
- Alternately pinnate*, with alternate leaflets, f. 80.
- Anther*, a bag containing pollen, f. 133.
- Apple*, a fleshy fruit, containing a capsule, f. 143.
- Articulated stem or leaf*, formed into distinct parts, united by portions of smaller diameter.
- Arrow-shaped*, triangular, hollowed at the base, f. 45.
- Ascending*, having an oblique direction upwards.
- Art-shaped*, long, cylindrical at the base, and tapering to a point, f. 72.
- Aw*, an elongated stiff acute body upon the flowers of grasses, f. 96.
- Axillar*, growing between a leaf and the stem or branch, or between a branch and the stem.
- Barbed or Bearded*, having a tuft of long hairs.
- Barren flowers*, having stamens but not pistils, and therefore not producing fruit.
- Bell-shaped*, of the form of a bell, with the margin turned outwards, f. 120.
- Berry*, a juicy fruit containing seeds imbedded in its pulp, f. 144.
- Bigeminate*, twice paired, f. 81.
- Binate leaf*, when two leaflets rest upon a common stalk, f. 74.
- Bipinnate*, twice pinnate, f. 83.
- Biternate*, twice ternate, f. 82.
- Bractea*, a leafy appendage to the flower, or its stalk, f. 85, *α*. f. 86, *α*.
- Branches*, divisions of the stem.
- Bristly*, covered with short stiff hairs.
- Bristle-pointed*, terminated by a bristle, or bristly point, f. 59.
- Bristle-shaped*, long, cylindrical at the base, tapering and very slender.
- Bristles*, short stiff hairs.
- Border*, the expanded part of the petal, f. 125, *b*.
- Bulbous-root*, with an enlarged globular part, and numerous fibres, f. 6, 7, 8.
- Bundle*, flower-stalks of equal length, growing close together, f. 100.
- Caducous calyx*, falling off before the corolla.
- Callous*, thickened and stiff.
- Calyx*, the outer, generally green covering of a flower, f. 109, *b*.
- Capsule*, a dry seed-vessel, generally of a membranous texture, f. 137.
- Cartilaginous*, thick and tough.
- Catkin*, a long simple flower-stalk thickly covered with scales and flowers, f. 105.



- Cauline*, growing on the stem, f. 23, 24.  
*Chaffy*, covered with membranous scales.  
*Chaff-scale*, the calyx of grasses and allied plants.  
*Channelled leaves or stalks*, with a longitudinal groove, f. 70.  
*Ciliated*, fringed with hairs, f. 64.  
*Clammy*, covered with glutinous juice.  
*Claw*, the narrow portion of a petal, f. 125, a.  
*Cleft*, deeply divided, f. 51.  
*Climbing*, ascending on other bodies  
*Clinging*, holding fast to another body for support, f. 12.  
*Close-pressed*, lying flat.  
*Cluster*, numerous flowers, each on a stalk, arranged along a common stalk, f. 97, 98.  
*Clustered leaves*, crowded together, f. 25.  
*Coloured calyx*, of any other colour than green.  
*Coated Bulbous root*, composed of layers, f. 7.  
*Common calyx*, containing several flowers with united anthers.  
*Common corolla*, consisting of several flowers with united anthers, contained in a common calyx.  
*Common or general umbel*, the first divisions of an umbel.  
*Common involucre*, at the base of a general umbel, f. 89, a.  
*Complete flower*, furnished with both calyx and corolla.  
*Compound flower*, when a number of flowers with united anthers grow in a common calyx.  
*Compound leaf*, consisting of several pieces connected by insertion into a common stalk.  
*Compressed*, flattened laterally.  
*Connate*, adhering together, f. 31.  
*Cone*, a catkin hardened and enlarged, f. 146, 147.  
*Conical receptacle*, elevated and coming to a point, f. 155.  
*Conjugate leaf*, with two leaflets.  
*Corolla*, the envelope of coloured and delicate leaves of a flower.  
*Corymb*, an erect cluster, the partial stalks of which are gradually longer as they stand lower on the common stalk, f. 99.  
*Cotyledons*, the two portions of a seed which at germination change into leaves, f. 148.  
*Cover*, a membranous covering for the sori of ferns.  
*Creeping root*, one with a subterraneous stem, sending off fibres at intervals, f. 2.  
*Creeping stem*, running along the ground, and sending down roots at intervals, f. 11.  
*Cruciform corolla*, of four petals with long claws, standing opposite in pairs, f. 126.  
*Cup-shaped*, of the form of a bell, with the margin straight, f. 121.  
*Curled*, with the margin folded and more expanded than the disk.  
*Cylindrical*, round and elongated.  
*Cyme*, a kind of umbel, the partial stalks of which are irregular.
- Deciduous leaves*, falling off every year.  
*Deciduous calyx*, or *corolla*, falling off before the fruit is perfected.  
*Decumbent stem*, lying on the ground at the base.  
*Decurrent leaves*, running down the stem or branch, so as to form a leafy border, f. 34.  
*Decurrently pinnate*, when the leaflets run down the stalk.  
*Decussate leaves*, in pairs, alternately crossing, f. 29.  
*Deltoid*, triangular.

*Denticulate*, furnished with small teeth.

*Depressed*, flattened vertically.

*Depressed leaves*, root-leaves pressed close to the ground.

*Digitate*, several leaflets resting on the top of a common stalk, f. 73.

*Dioecious*, when stameneriferous flowers grow on one plant, and pistilliferous flowers on another plant, of the same species.

*Dilated stalks*, enlarged in breadth.

*Disk*, the central florets of a compound flower.

*Dorsal*, on the back.

*Downy*, covered with soft fine hairs.

*Drupe*, a fleshy fruit, containing a nut, f. 142.

*Egg-shaped*, longer than broad, the base broader than the end; when applied to the leaf, bractea, petal, &c. the term merely implies that these flat parts have the outline of an egg, f. 36; but when applied to a seed or capsule, it means that they are truly the form of an egg.

*Elliptical*, the length greater than the breadth, and both ends rounded, f. 37.

*Embracing the stem*, leaves sessile and clasping the stem at their base, f. 30.

*Emerged*, standing out of the water.

*Entire*, without division, or without teeth or notches on the edges, f. 36, 43.

*Equal*, all of the same length, f. 117, 120.

*Equitant leaves*, disposed in two opposite rows, and embracing each other at the base, f. 33.

*Erect*, rising perpendicularly.

*Even*, destitute of inequalities.

*Evergreen leaves*, remaining green during the winter.

*Feathery seed-down*, consisting of hairs which are subdivided like the shaft of a feather, f. 150.

*Fertile flower*, having pistils but not stamens.

*Fibrous root*, consisting entirely of fibres or radicles, f. 1.

*Fleshy*, thick and juicy.

*Flat receptacle*, perfectly even, f. 154.

*Filament*, the stalk which supports the anther, f. 133, a.

*Flexuous*, forming angles from right to left, and inversely.

*Floating leaves or stems*, lying flat on the surface of the water.

*Flower-stalk*, a slender body which supports the flower, f. 19.

*Floral leaf*, an appendage to the flower or its stalk, f. 85, a. 86, a.

*Follicle*, a one-valved, one-celled capsule, opening lengthwise.

*Forked*, regularly and repeatedly dividing into two, f. 10.

*Four-ranked*, with leaves or branches spreading in four directions.

*Fringed*, margined with a row of hairs, f. 64.

*Frond*, a leaf bearing the fructification.

*Furrowed*, marked with parallel elevated and depressed lines.

*Gaping corolla*, an irregular corolla, with two lips and an open throat, f. 123.

*Geniculate straw*, with the joints enlarged and bent like a knee, f. 18.

*Germen*, the undermost part of the pistil, f. 136 a.

*Glands*, small soft bodies secreting fluids.

*Glaucous*, covered with a pale greenish-blue mealliness.

*Gnawed*, irregularly notched at the margin.

*Granulated root*, consisting of small bulbs or scales, f. 9.

*Grooved*, marked with parallel deep lines.

*Habit* of plants, their peculiar appearance.

*Hair-shaped*, long, cylindrical and slender.

*Hairs*, slender bodies of various degrees of fineness, covering the surface of plants.

*Hairy*, covered with long, soft, straight hairs.

*Halberd-shaped*, triangular, hollowed out at the base and sides, with a projecting part on each side, f. 46.

*Head*, flowers arranged sessile in a globular form, f. 101.

*Heart-shaped*, egg-shaped with the base hollowed out, f. 44.

*Hemispherical*, of the form of a half-sphere, f. 114.

*Herbaceous*, soft, in opposition to woody.

*Hoary*, covered with close, extremely fine, white hairs.

*Hollow stem or leaves*, cylindrical, with an internal cavity.

*Horizontal branches or leaves*, standing off at right angles.

*Husk*, the corolla of grasses, f. 116, b.

*Imbricated leaves*, or other organs, one lying over the other, f. 28, 113, 114.

*Immersed*, under water.

*Incomplete flower*, when the corolla is wanting.

*Incumbent anther*, lying across the top of the filament, f. 134.

*Indigenous plants*, those growing wild in a country.

*Inflected*, bent inwards.

*Inflorescence*, the manner in which the flowers are arranged.

*Interruptedly pinnate*, with smaller leaflets between the larger.

*Inversely egg-shaped or heart-shaped*, with the broad end outermost.

*Involucre*, a kind of bractea, consisting of several leaves, at a distance from the flower, f. 88.

*Involute*, rolled inwards at the margin, f. 66.

*Irregular corolla*, not uniform in its general form, f. 123, 124.

*Jagged*, irregularly cut at the margin, f. 63.

*Jointed*, composed of distinct pieces united by intermediate parts.

*Keel* of a papilionaceous corolla, the lower boat-shaped piece, f. 131.

*Keeled leaves* or other parts, with a longitudinal prominence at the back, f. 71.

*Kernel*, the seed of a nut.

*Kidney-shaped*, roundish, with the base hollowed out, f. 43.

*Kneed straw*, with the joints enlarged and bent like a knee, f. 18.

*Knobbed stigma*, of a somewhat globular form.

*Knotty*, leaving knots at intervals.

*Laciniate*, deeply cut into at the margin.

*Lamina*, the expanded part of a petal, f. 125, b.

*Lance-shaped*, oblong and narrow, tapering towards each end, f. 40.

*Lateral anther*, attached to the side of the filament.

*Lateral leaves*, from the sides of the stem or branches.

*Leaf-stalk*, the stalk of a leaf.

*Leathery*, thin but tough.

*Legume*, a dry elongated seed-vessel, formed of two oblong valves, without a longitudinal part, f. 140.

*Ligule*, the stipule of grasses.

*Limb*, the expanded part of the corolla.

*Linear*, flat, very narrow, with the edges parallel, f. 41.

*Lobed*, divided into segments, with rounded margins, f. 52.

*Lyre-shaped*, pinnatifid, with the terminal segment rounded and larger, f. 48.

*Membranous*, very thin, dry, and easily torn.

*Monœcious*, when stameneriferous flowers and pistilliferous flowers exist on the same plant.

*Monopetalous corolla*, consisting of one petal or piece, f. 117.

*Naked flower*, destitute of a calyx.

*Naked stem*, or *leaf*, without hairs.

*Naturalized plants*, those originally introduced from another country, but now become wild.

*Nectary*, a part of the flower which contains or secretes honey.

*Needle-shaped leaves*, linear and evergreen.

*Neutral flowers*, destitute of both stamens and pistils.

*Notched leaf*, or *petal*, ending with a small notch, f. 56.

*Nut*, a seed covered with a hard shell, which does not burst, f. 141.

*Obtuse*, rounded at the end.

*Oblong*, when the length is three or four times greater than the breadth, and the end rounded.

*Opposite leaves*, or other parts, coming off on opposite sides at the same place, f. 23.

*Oppositely pinnate leaf*, with opposite leaflets, f. 77, 78, 79.

*Orbicular*, round and flat.

*Oval*, the length greater than the breadth, and both ends alike rounded, f. 37.

*Palmate leaf*, having several oblong segments, extending to the middle, f. 53.

*Panicle*, when the flowers are in a kind of loose subdivided cluster, f. 104.

*Panicked stem*, with irregular branches, which are themselves irregularly divided, the last divisions bearing flowers.

*Papilionaceous corolla*, of four petals, resembling a butterfly, f. 128.

*Papillous*, covered with small soft prominences.

*Partial involucre*, at the base of a partial umbel.

*Partial umbel*, the secondary division of an umbel.

*Pectinate*, pinnatifid, with the segments very narrow, f. 50.

*Pedate leaf*, a ternate leaf, having its lateral leaflets divided into several others, f. 76.

*Peduncle*, a slender body by which the flower is connected with the stem or branch.

*Peltate leaf*, when the stalk is inserted into the middle, f. 35.

*Pendulous*, hanging.

*Perfect flowers*, having both stamens and pistils.

*Perfoliate*, when the stem, as it were, runs through a leaf, f. 32.

*Perianth*, a calyx contiguous to the corolla, or other internal parts of the flower, f. 110.

*Pericarp*, the seed-vessel.

*Permanent leaves*, remaining unaltered during winter.

*Persistent calyx or corolla*, remaining until the fruit is ripe.

*Personate corolla*, irregular, with two lips, and a closed throat, f. 124.

*Petals*, the distinct pieces of a corolla.

*Pinnate*, when several leaflets proceed from a common stalk, f. 78, 80.

*Pinnatifid*, cut transversely into several oblong segments, f. 47.

*Pistil*, an organ consisting of three parts, occupying the centre of the flower, f. 136.

*Pithy*, having the central part filled with pith.

*Plaited*, folded so as to present alternately projecting and retiring angles, f. 69.

*Pod*, a long dry seed-vessel of two valves, separating by a longitudinal partition, to the edges of which the seeds are alternately attached, f. 138.

*Polished*, smooth and reflecting light.

*Pollen*, the dust or minute globules contained in the anther.

*Polypetalous*, consisting of several distinct pieces or petals.

*Pores*, small cavities or holes.

*Pouch*, a short pod, f. 139.

*Prickle*, an acute appendage arising from the bark, f. 92.

*Prickly*, covered with prickles.

*Procumbent*, lying on the ground.

*Protuberant*, having a prominence.

*Quadrangular*, flat and four-cornered.

*Quinate leaf*, compound with five leaflets.

*Quinquangular*, flat with five corners.

*Raceme*, numerous flowers, each on a stalk, arranged along a common stalk, f. 97, 88.

*Radiating flowers*, having the marginal florets long and spreading.

*Radical leaves*, growing from the root, f. 19.

*Ray*, the marginal elongated florets of a compound flower.

*Receptacle*, the point at which all the parts of a flower meet.

*Reclinate leaves*, inclining downwards.

*Reflected*, bent backwards.

*Regular corolla*, uniform in its general figure, f. 126, 127.

*Remote leaves, scales, &c.*, widely separated.

*Reticulated*, when the veins resemble net-work.

*Retuse leaf or petal*, ending in a broad shallow notch, f. 55.

*Revolvute*, rolled back at the margin, f. 66.

*Rhombic*, diamond-shaped.

*Ribbed leaf*, when the vessels extend in undivided lines, f. 68.

*Ribs*, elevated lines.

*Ringent corolla*, the limb divided into two parts, leaving an open throat, f. 123.

*Rough*, covered with hairs.

*Roundish leaves or petals*, when the length and breadth are nearly equal.

*Rosaceous corolla*, of five equal roundish petals, f. 127.

*Runcinate*, pinnatifid, with the segments pointed and directed downwards, f. 49.

*Salver-shaped corolla*; with a long cylindrical tube and expanded limb, f. 117.

*Scaly stem*, covered with scales, f. 15.

*Scape*, a flower-stalk arising from the root.

- Scattered*, irregularly distributed.
- Scattered leaves or scales*, irregularly distributed, f. 24.
- Seed-down*, a bristly crown attached to the seed.
- Segments*, the division of an organ.
- Semi-cylindrical*, elongated, flat on one side, and round on the other.
- Serrate*, with sharp close teeth, pointing in one direction, f. 61.
- Shaggy*, covered with very long, soft hairs.
- Sheath*, a membranous covering enclosing the flower, and afterwards bursting longitudinally, f. 87.
- Sheath of the leaf*, the lower part of the leaf of a grass, which encloses the straw.
- Sheathing*, investing the stem with a sheath.
- Shining*, reflecting light strongly.
- Simple*, undivided, or consisting of one.
- Simple leaf*, consisting of one piece.
- Simple flower*, when a single flower is contained in the calyx.
- Simple seed-down*, consisting of undivided hairs, f. 149.
- Smooth*, destitute of hairs.
- Solid*, not hollow.
- Solitary flower*, one only in the same place, or on the stem.
- Sori*, masses or groups of capsules, arranged on the back of the frond in ferns.
- Sparse*, irregularly scattered, or distant.
- Sparsely*, distantly.
- Spathulate*, circular at the end, and tapering towards the base, f. 38.
- Spherical*, of the form of a sphere, f. 113.
- Spike*, numerous flowers arranged along a common stalk, without partial stalks, f. 94, 95.
- Spiked flowers*, arranged in the form of a spike.
- Spiked panicle*, a very close panicle resembling a spike.
- Spikelet*, a term applied to grasses and other plants, which have many flowers arranged on a stalk within a common calyx, f. 96.
- Spindle-shaped root*, thick and fleshy, tapering downwards, f. 3.
- Spine*, an acute appendage, arising from the wood, f. 91.
- Spreading branches or leaves*, coming off at a moderately acute angle.
- Spur*, a horn-shaped production of the corolla, f. 132.
- Stalk or scape*, a stem that supports flowers but not leaves.
- Stamens*, organs of the flower, consisting of a bag filled with powder, and generally supported on a stalk.
- Standard*, the upper petal of a papilionaceous corolla, f. 129.
- Stemless plants*, having no stem properly so called.
- Stigma*, the top of the style, f. 136, c.
- Stipule*, an appendage to the leaf, f. 84.
- Strap-shaped*, narrow and flat.
- Straw*, the stem of grasses, rushes, and allied plants.
- Striated or streaked*, marked with parallel lines.
- Strobilus*, a catkin hardened and enlarged, f. 146, 147.
- Style*, a stalk supporting the stigma, f. 136, b.
- Subdivided stalk*, bearing several flowers.
- Submersed*, under water.
- Sword-shaped leaves*, perpendicular, two-edged and slightly convex on both surfaces.
- Tail*, an elongated appendage to a seed, f. 152.
- Tapering root*, thick and fleshy, tapering downwards, f. 3.
- Tendril*, a thread-like organ, serving to attach plants to some support, f. 78, 90.

*Terminal*, at the end of the stem or branch.

*Ternate leaf*, when three leaflets rest upon a common stalk, f. 75.

*Tetragonal*, with four angles.

*Thorn*, an acute appendage, arising from the wood, f. 91.

*Thread-shaped*, elongated, cylindrical, and slender.

*Three-edged stem*, with three sharp angles.

*Thrice pinnate*, divided three times in a pinnate manner, f. 83.

*Thyrus*, a close panicle of an oval form.

*Toothed leaves* or other parts, having small protuberances on the margin, f. 60.

*Triangular leaf*, flat, with three angles, f. 42.

*Trifid*, shortly divided into three segments.

*Trigeminate*, thrice paired.

*Tripartite*, deeply divided into three segments.

*Tripinnate*, thrice pinnate.

*Triternate*, thrice ternate.

*Trunk*, the stem of a tree or shrub.

*Tube*, the narrow cylindrical part of the corolla.

*Tubular*, cylindrical and hollow.

*Tufted leaves*, several springing from one point, f. 27.

*Tumid*, bulging out.

*Turbinate*, spherical and depressed.

*Twining*, winding round other bodies, f. 13.

*Two-edged stem*, compressed with two opposite sharp edges.

*Two-ranked*, with leaves or branches spreading in two opposite directions.

*Umbel*, flower-stalks of nearly equal length, arising from a common centre, f. 89, 102.

*Umbellules*, the secondary divisions of an umbel.

*Undivided*, without segments.

*Undulated*, having a waved margin, f. 55.

*Unequal*, some longer than others.

*Unilateral*, all inclining one way.

*Veined*, with a net-work of prominent vessels, f. 67.

*Veins*, branching vessels.

*Warty*, covered with small hard prominences.

*Wedge-shaped*, broad at the end and tapering towards the base, f. 29.

*Wheel-shaped corolla*, with a short tube and expanded limb.

*Whorl*, when several flowers encircle the stem, f. 93.

*Whorled leaves* or *flowers*, growing in a circle round the stem.

*Wing of a seed*, a dilated membranous appendage, f. 153.

*Wings*, the lateral pieces of a papilionaceous corolla, f. 130.

*Winged stem*, with edges extended into leafy borders.

*Woody*, hard and solid.

*Woolly*, covered with long, soft, interwoven hairs.

*Wrinkled leaves*, when the veins are lighter than the substance between them, so that the latter is puckered.

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# ARRANGEMENT OF THE GENERA OF BRITISH PLANTS, ACCORDING TO THE NATURAL METHOD.

IN attempting to arrange plants agreeably to their natural affinities, various methods have been devised. That here used, although partly artificial, will answer the purpose of grouping the British genera into Families, or, as these groups are now frequently called, Orders. It not being consistent with the plan of this work to present details, the following Table will be found to be merely the outline of an arrangement.

Plants may be primarily divided into two series: 1. VASCULAR, or FLOWERING PLANTS; 2. CELLULAR, or FLOWERLESS. These Sections of the vegetable kingdom may be subdivided into Classes, Orders, and Genera. Thus:

## SERIES I. VASCULAR PLANTS.

Also named FLOWERING Plants, and PHÆNOGAMOUS Plants.

*Plants producing flowers and seeds, and composed of cellular tissue, woody fibre, and spiral vessels.*

## Class I. DICOTYLEDONOUS PLANTS.

Stem formed of pith, wood, and bark; the woody part furnished with medullary rays, and increasing by the addition of layers externally; whence these plants are also named EXOGENOUS; cotyledons two or more, opposite.

## Section I. THALAMIFLOREÆ.

*Petals distinct, and, with the stamens, hypogynous (inserted beneath the ovary).*

## Order I. RANUNCULACEÆ.

Sepals five, three, or six. Petals five, or more, or none. Stamens

numerous, anthers adnate, opening longitudinally. Carpels numerous, distinct, or united. Seeds erect or pendulous.

#### CLEMATIDÆ.

1. Clematis, 227, 235.

#### ANEMONEÆ.

2. Thalictrum, 227, 236.
3. Anemone, 227, 233.
4. Adonis, 227, 236.

#### RANUNCULÆ.

5. Myosurus, 114, 103.
6. Ranunculus, 227, 237.

#### HELLEBOREÆ.

7. Caltha, 222, 240.
8. Trollius, 227, 239.
9. Helleborus, 227, 240.
10. Aquilegia, 227, 234.
11. Delphinium, 227, 233.
12. Aconitum, 227, 234.

#### PÆONIÆ.

13. Actæa, 226, 228.
14. Pæonia, 227, 233.

### Order II. BERBERIDÆ.

Sepals three, four, or six, in two rows. Petals the same number. Stamens opposite to the petals, glandular at the base, anthers opening by valves. Ovary one-celled, seeds attached to the bottom.

1. Berberis, 163, 175.
2. Epimedium, 96, 103.

### Order III. NYMPHÆACEÆ.

Sepals five, four, or six, often gradually passing into the petals, and these into the numerous stamens, which are inserted into a fleshy disk, surrounding the ovaries. Stigma compound, peltate, radiate. Ovary many-celled, many-seeded.

1. Nymphaea, 227, 230.
2. Nuphar, 227, 231.

### Order IV. PAPAVERACEÆ.

Sepals two. Corolla regular, of four petals. Stamens numerous, free. Ovary free, stigma lobed or radiate. Capsule one-celled, many-seeded.

1. Papaver, 226, 229.
2. Glaucium, 226, 228.
3. Chelidonium, 226, 228.

### Order V. FUMARIACEÆ.

Sepals two. Corolla irregular, of four petals, one or both of the two outer spurred or saccate at the base. Stamens six, in two parcels. Ovary free, one-celled, style filiform, stigma lobed.

1. Fumaria, 285, 286.

### Order VI. CRUCIFERÆ.

Sepals four. Corolla cruciform. Stamens tetradynamous, the two shorter opposite the lateral petals. Ovary free, stigmas two. Fruit a siliqua or a silicula.

#### SILICULOSÆ.

1. Subularia, 263, 264.
2. Draba, 263, 268.
3. Alyssum, 263, 266.
4. Camelina, 263, 266.
5. Hutchinsia, 263, 266.
6. Lepidium, 264, 267.

7. Thlaspi, 264, 267.
8. Teesdalia, 264, 268.
9. Iberis, 264, 268.
10. Cochlearia, 263, 269.
11. Senebiera, 263, 269.
12. Crambe, 264, 270.
13. Cakile, 264, 270.

- |     |                       |                            |
|-----|-----------------------|----------------------------|
| •   | SILIVOSÆ.             | 21. Barbarea, 264, 275.    |
| 14. | Dentaria, 264, 271.   | 22. Erysimum, 264, 275.    |
| 15. | Cardamine, 264, 271.  | 23. Hesperis, 264, 276.    |
| 16. | Arabis, 264, 272.     | 24. Cheiranthus, 264, 276. |
| 17. | Turritis, 264, 273.   | 25. Brassica, 264, 277.    |
| 18. | Nasturtium, 264, 273. | 26. Sinapis, 264, 277.     |
| 19. | Sisymbrium, 264, 274. | 27. Raphanus, 264, 279.    |
| 20. | Matthiola, 264, 274.  |                            |

•

Order VII. RESEDACEÆ.

Sepals four, five, or six, persistent. Corolla irregular, petals four or six, lacerated. Stamens ten to twenty-four, inserted upon a glandular irregular disk. Ovary sessile, three-lobed, one-celled, with three parietal placentas. Fruit opening at an early stage at the end.

1. Reseda, 210, 212.

Order VIII. CISTINEÆ.

Sepals five, unequal, the inner three with twisted aestivation. Petals five, deciduous, corrugated and twisted. Stamens numerous. Ovary one-celled, or many-celled, style filiform, stigma simple. Capsule valvate. Seeds numerous.

1. Helianthemum, 227, 232.

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Order IX. VIOLACEÆ.

Sepals five, often extended at the base. Petals five. Stamens five, with dilated filaments, and crested anthers. Ovary one-celled, with three parietal placentæ, style with a hooded stigma. Capsule of three valves.

1. Viola, 111, 127.

Order X. DROSERACEÆ.

Sepals five, equal. Petals five, regular. Stamens five or ten, free. Styles three or five. Ovary free. Capsules with three or five valves.

1. Drosera, 114, 162.

Order XI. POLYGALÆÆ.

Sepals five, the two inner larger and petaloid. Petals generally three. Stamens with their filaments united below, but separating above into two parcels. Anthers one-celled, opening by a pore at the tip. Capsule one-celled or three-celled, with placentas in the axis. Seeds pendulous.

1. Polygala, 285, 286.

Order XII. FRANKENIACEÆ.

Sepals four or five, united into a furrowed tube below. Petals five, clawed, with appendages at the base of the limb. Stamens five or more, free, two-celled. Capsule one-celled, three-valved, with three parietal placentæ. Seeds numerous, minute.

1. Frankenia, 163, 175.

## Order XIII. TAMARISCINEÆ.

Calyx five-parted, persistent. Petals four or five, regular, withering, imbricate. Stamens as many as the petals, or double in number. Capsule one-celled, three-valved, many-seeded. Seeds comose.

1. *Tamarix*, 114, 169.

## Order XIV.. ELATINEÆ.

Sepals three or five. Petals three or five, sessile. Stamens as many as the petals, or double their number, free. Ovary three-celled, or five-celled, styles three, or five, stigmas capitate. Capsule with three or five cells, and as many valves. Seeds numerous.

1. *Elatine*, 182, 190.

## Order XV. CARYOPHYLLÆ.

Sepals five or four, distinct or united. Petals five or four, clawed. Stamens ten or eight, inserted upon a fleshy disk or ring, anthers opening longitudinally. Ovary often stalked, stigmas from two to five, filiform. Capsule one-celled, or with from two to five imperfect cells, opening by twice as many teeth as stigmas. Placenta central. Seeds generally numerous.

- |                                  |                                  |
|----------------------------------|----------------------------------|
| 1. <i>Dianthus</i> , 192, 193.   | 8. <i>Moenchia</i> , 64, 108.    |
| 2. <i>Saponaria</i> , 192, 198.  | 9. <i>Holosteum</i> , 61, 95.    |
| 3. <i>Silene</i> , 192, 199.     | 10. <i>Stellaria</i> , 192, 201. |
| 4. <i>Lychnis</i> , 192, 207.    | 11. <i>Arenaria</i> , 192, 202.  |
| 5. <i>Agrostemma</i> , 192, 206. | 12. <i>Cerastium</i> , 192, 208. |
| 6. <i>Sagina</i> , 96, 108.      | 13. <i>Cherleria</i> , 192, 204. |
| 7. <i>Spergula</i> , 192, 209.   |                                  |

## Order XVI. LINEÆ.

Sepals three to five, persistent. Petals three to five, twisted, clawed, caducous. Stamens as many as the petals, united at the base into a hypogynous ring, with intermediate teeth. Ovary with about as many cells as sepals, and as many styles; stigmas capitate. Capsule globose, generally tipped with the hardened base of the styles, and having four or five cells, each subdivided. Seeds one in each division, pendulous.

1. *Linum*, 114, 161.
2. *Radiola*, 96, 109.

## Order XVII. MALVACEÆ.

Calyx five-cleft, involucrate. Corolla regular, of five twisted petals. Stamens numerous, monadelphous, anthers one-celled, kidney-shaped, opening transversely. Ovary of several carpels, united round a common axis. Carpels with one or several seeds.

1. *Lavatera*, 279, 284.
2. *Malva*, 280, 283.
3. *Althæa*, 280, 283.

## Order XVIII. TILIACEÆ.

Sepals four or five, valvate. Petals four or five, sometimes none. Stamens generally numerous, anthers two-celled, opening longitu-

dinally. Glands four or five at the base of the petals. Ovary with from one to ten cells. Style one. Capsule with one or many seeds in each cell.

1. *Tilia*, 227, 231.

#### Order XIX. HYPERICINEÆ.

Sepals four or five, often coherent, persistent, with glandular dots, imbricate. Petals four or five, twisted. Stamens numerous, polyadelphous. Styles several. Fruit, a capsule or berry, with many cells, and many valves. Seeds numerous, minute, on a central receptacle, or on the incurved margins of the valves.

1. *Hypericum*, 301, 301.

#### Order XX. ACERINEÆ.

Calyx four-, five or nine-parted, imbricate. Petals of the same number, inserted round a hypogynous disk. Stamens generally eight, inserted on the disk. Ovary two-lobed, two-celled, style one, stigmas two. Fruit winged, separating into two one-celled carpels, each with one or two seeds.

1. *Acer*, 181, 187.

#### Order XXI. GERANIACEÆ.

Sepals five, persistent, imbricate. Petals five, clawed, twisted. Stamens generally monadelphous, two or three times as many as the petals, some often abortive. Fruit of five carpels, each having an indurated style adherent to the axis, from which it finally separates, carrying with it the membranous pericarp.

1. *Geranium*, 279, 280.

2. *Erodium*, 279, 280.

#### Order XXII. BALSAMINEÆ.

Sepals five, irregular, deciduous, the lower spurred. Petals four, irregular, united in pairs. Stamens five, anthers two-celled, opening at the tip by a longitudinal fissure. Ovary five-celled. Fruit with five elastic valves. Seeds solitary or numerous, pendulous.

1. *Impatiens*, 111, 127.

#### Order XXIII. OXALIDEÆ.

Sepals five, persistent, imbricate. Petals five, equal, twisted. Stamens ten, unequal, monadelphous; anthers two-celled. Ovary five-celled, styles five. Capsule with five or ten valves. Seeds several.

1. *Oxalis*, 192, 206.

#### Section II. CALYCIFLORÆ.

*Petals distinct, and, with the stamens, perigynous (inserted into the calyx).*

#### Order XXIV. CELASTRINEÆ.

Sepals four or five, imbricate. Petals four or five, inserted into a fleshy disk. Stamens alternate with the petals. Ovary sunk in the disk, with three or four cells, the cells with one or two erect seeds.

1. *Staphylea*, 114, 158.

2. *Euonymus*, 111, 133.

## Order XXV. RHAMNEÆ.

Calyx four- or five-cleft, valvate. Petals four or five, inserted into the throat of the calyx. Stamens four or five, opposite to the petals. Ovary wholly or in part superior, with two or four cells, and surrounded by a glandular disk. Seeds solitary, erect.

1. Rhamnus, 111, 132.

## Order XXVI. LEGUMINOSEÆ.

Calyx of four or five sepals, more or less united. Corolla papilionaceous (in all the British genera), inserted into the base of the calyx, the odd petal superior. Stamens ten, monadelphous or diadelphous. Ovary free, one-celled. Fruit a legume.

## LOTÆÆ.

1. Ulex, 285, 288.
2. Genista, 285, 287.
3. Ononis, 285, 289.
4. Anthyllis, 285, 289.
5. Medicago, 285, 300.
6. Trifolium, 286, 296.
7. Astragalus, 285, 295.

## VICIÆÆ.

8. Vicia, 285, 292.
9. Lathyrus, 285, 291.
10. Orobus, 285, 290.

## HEDYSARÆÆ.

11. Ornithopus, 285, 294.
12. Arthrolobium, 285, 294.
13. Hippocrepis, 285, 295.
14. Hedysarum, 285, 295.

## Order XXVII. ROSACEÆ.

Calyx four- or five-parted, lined below with a disk. Petals five, equal, inserted into the calyx. Stamens generally numerous, anthers two-celled, opening longitudinally. Carpels many, rarely solitary, one-celled, with one, two, or more seeds; styles simple, often lateral.

## AMYGDALÆÆ.

1. Prunus, 213, 214.

## SPIRÆÆ.

2. Spiræa, 213, 216.

## DRYADEÆ.

3. Dryas, 213, 225.
4. Geum, 213, 225.
5. Sanguisorba, 96, 103.
6. Poterium, 344, 362.
7. Agrimonia, 210, 211.
8. Alchemilla, 96, 105.

9. Sibbaldia, 114, 161.

10. Potentilla, 214, 223.

11. Comarum, 214, 226.

12. Fragaria, 213, 222.

13. Rubus, 213, 220.

## ROSEÆÆ.

14. Rosa, 213, 217.

## POMEÆÆ.

15. Mespilus, 213, 215.

16. Pyrus, 213, 215.

## Order XXVIII. LYTHRARIÆÆ.

Calyx tubular, lobed. Petals deciduous, between the lobes of the calyx. Stamens equalling the petals in number, or two, three, or four times as many, and inserted into the tube of the calyx. Ovary free, three- or four-celled, with a central placenta, and numerous seeds. Capsule membranous, usually one-celled.

1. Lythrum, 210, 211.

2. Peplis, 163, 175.

## Order XXIX. ONAGRARIÆÆ.

Calyx tubular, adnate to the ovary entirely or in part, two- or four-lobed. Petals as many as the lobes of the calyx, twisted, inserted at the top of the tube. Stamens two, four, or eight, inserted with the

Ovary of several cells, with a central placenta, style one, filiform; stigma capitate or lobed. Fruit a berry or capsule with four cells.

1. *Epilobium*, 181, 182.

3. *Isnardia*, 96, 104.

2. *Oenothera*, 181, 182.

4. *Circæa*, 49, 56.

### Order XXX. HALORAGÆ.

Calyx tubular, adnate with the ovary, its limb minute. Petals minute, from the mouth of the calyx, or none. Stamens inserted with the petals, equal in number to its lobes, or twice as many. Ovary with one or more cells. Fruit dry, indehiscent, with one or several cells. Seed solitary, pendulous.

1. *Myriophyllum*, 344, 361.

2. *Callitriche*, 45, 48.

3. *Hippuris*, 45, 46.

### Order XXXI. CERATOPHYLLÆ.

Flowers monœcious. Perianth single, free, in many divisions. Anthers from twelve to twenty, two-celled, two-pointed. Ovary free, one-celled, with one pendulous seed.

1. *Ceratophyllum*, 344, 361.

### Order XXXII. CUCURBITACEÆ.

Flowers often monœcious or diœcious. Calyx five-toothed, its tube adnate to the ovary. Corolla five-cleft, often scarcely distinguishable from the calyx, frequently reticulated. Stamens five, often more or less coherent, anthers tortuous. Ovary with from three to five cells, or one-celled, with parietal placentas, style short, stigmas lobed, thick. Fruit fleshy, seeds flat, in a juicy arillus.

1. *Bryonia*, 344, 360.

### Order XXXIII. PORTULACÆ.

Sepals two, rarely three, or five, coherent at the base, imbricate. Petals generally five, from the base of the calyx. Stamens numerous, inserted along with the petals, filaments distinct. Ovary one-celled, style one or none, stigmas several. Capsule opening transversely by three valves, with a central placenta.

1. *Montia*, 64, 94.

### Order XXXIV. PARONYCHIEÆ.

Sepals five, rarely three or four, coherent at the base. Petals minute, or none. Stamens indefinite, opposite the sepals, filaments generally distinct. Ovary free, styles two or three. Fruit dry, three-valved, or indehiscent, with a central placenta.

1. *Corrigiola*, 114, 159.

3. *Polycarpon*, 61, 95.

2. *Herniaria*, 112, 136.

4. *Scleranthus*, 192, 198.

3. *Illecebrum*, 111, 134.

### Order XXXV. CRASSULACÆ.

Sepals from three to twenty, united at the base. Petals the same number, regular, generally free, inserted at the base of the calyx.



Stamens inserted with the petals, and the same in number, or twice as many. A scale at the base of each ovary. Ovaries equal in number to the petals. One-celled, free, or slightly connected. Fruit of several follicles opening along the inner side.

- |                           |                        |
|---------------------------|------------------------|
| 1. Tillæa, 96, 109.       | 4. Sedum, 192, 205.    |
| 2. Cotyledon, 192, 204.   | 5. Rhodiola, 367, 381. |
| 3. Sempervivum, 210, 212. |                        |

#### Order XXXVI. GROSSULACEÆ.

Calyx four- or five-cleft, regular. Petals four or five, small, attached to the mouth of the tube, and alternating with the stamens. Ovary one-celled, with two opposite parietal placentas; style two- or four-cleft. Berry one-celled, many-seeded.

1. Ribes, 111, 133.

#### Order XXXVII. SAXIFRAGÆ.

Calyx four- or five-cleft, superior or inferior. Petals four or five, rarely none. Stamens from five to ten. Ovary of two coherent carpels; styles two, persistent. Capsule two-valved. Seeds numerous.

1. Saxifraga, 192, 195.      2. Chrysosplenium, 192, 195.

#### Order XXXVIII. UMBELLIFERÆ.

Calyx adherent to the ovary, with five small teeth. Petals five, usually inflexed at the point. Stamens five, inserted with the petals on the mouth of the calyx. Ovary two-celled, crowned by two fleshy disks; styles two. Fruit of two carpels, adhering to a common axis, from which they separate when ripe. Seeds solitary, pendulous.

##### HYDROCOTYLÆ.

1. Hydrocotyle, 112, 141.

##### SANICULÆ.

2. Sanicula, 112, 142.

3. Eryngium, 112, 141.

##### AMMINEÆ.

4. Cicuta, 117, 147.

5. Apium, 113, 150.

6. Sison, 112, 147.

7. Ægopodium, 113, 151.

8. Carum, 114, 153.

9. Bunium, 112, 146.

10. Pimpinella, 113, 154.

11. Sium, 112, 146.

12. Bupleurum, 113, 155.

##### SESELINÆ.

13. Oenanthe, 112, 149.

14. Æthusa, 113, 148.

15. Ligusticum, 112, 152.

16. Athamanta, 113, 153.

17. Crithmum, 113, 150.

##### ANGELICÆ.

18. Angelica, 113, 151.

19. Imperatoria, 113, 151.

20. Pastinaca, 113, 156.

##### PEUCEDANÆ.

21. Selinum, 112, 155.

22. Peucedanum, 112, 156.

23. Cnidium, 113, 154.

24. Heracleum, 112, 156.

25. Pastinaca, 113, 156.

26. Tordylium, 113, 157.

##### DAUCINÆ.

27. Daucus, 112, 145.

##### CAUCALINÆ.

28. Caucalis, 112, 142.

29. Torilis, 113, 142.

##### SCANDICINÆ.

30. Scandix, 113, 143.

31. Anthriscus, 113, 143.

32. Chærophylum, 113, 145.

33. Myrrhis, 113, 144.

##### SMYRNEÆ.

34. Conium, 112, 148.

35. Smyrniacum, 113, 150.

## Order XXXIX. ARALIACEÆ.

Calyx with the tube adherent to the ovary, four- or five-toothed. Petals four, five, ten, or none. Stamens equal in number to the petals and alternate with them, or twice as many, on the margin of an epigynous disk. Ovary with two or more cells, styles as many as the cells. Fruit fleshy or dry, of several cells, each with one pendulous seed.

1. Adoxa, 182, 190.      2. Hedera, 111, 134.

## Order XL. CORNÆ.

Sepals four, more or less united. Petals four, broad at the base, inserted at the top of the calyx-tube. Stamens four, inserted with the petals. Ovary two-celled, style filiform. Fruit a drupe, with thick hard endocarp. Seeds solitary, pendulous.

1. Cornus, 96, 103.

## Section III. COROLLIFLORÆ.

*Corolla monopetalous, bearing the stamens.*

## Order XLI. LORANTHACEÆ.

Calyx adnate to the ovary, with two bractæas at the base, its limb entire or lobed. Corolla of four or eight united petals. Stamens as many as the petals, and opposite to them. Ovary one-celled, with one erect ovule, style filiform or none, stigma capitate. Fruit succulent.

1. Viscum, 367, 378.

## Order XLII. CAPRIFOLIACEÆ.

Calyx adnate to the ovary, usually bracteated at the base, its limb four- or five-lobed. Corolla four- or five-cleft, regular or irregular. Stamens four or five, alternate with the lobes of the corolla. Ovary with from three to five cells, each cell with one or more pendulous ovules; stigmas from one to three. Fruit usually a berry, one- or many-celled.

- |                        |                        |
|------------------------|------------------------|
| 1. Sambucus, 114, 158. | 3. Lonicera, 111, 132. |
| 2. Viburnum, 114, 157. | 4. Linnaea, 242, 261.  |

## Order XLIII. RUBIACEÆ.

Calyx adnate to the ovary, entire, or with four, five, or six teeth. Corolla regular, with four, five, or six lobes. Stamens four or five, alternate with the lobes of the corolla. Ovary with one or two cells and solitary erect ovules, style often bifid, with two stigmas. Fruit indehiscent, with two cells, each with one seed.

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|-----------------------|--------------------|
| 1. Sherardia, 96, 98. | 3. Galium, 98, 98. |
| 2. Asperula, 96, 98.  | 4. Rubia, 96, 101. |

## Order XLIV. VALERIANEÆ.

Calyx adnate to the ovary, with the limb toothed or furnished with downy filaments. Corolla tubular, with three, four, or five

lobes, irregular, often spurred at the base. Stamens from one to five. Ovary with one perfect cell, and often two or three imperfect. Fruit dry, indehiscent, crowned by the calyx.

1. *Valeriana*, 58, 61.

2. *Fedia*, 58, 62.

#### Order XLV. DIPSACEÆ.

Calyx adnate to the ovary, surrounded by an involucre, closely investing the ripe fruit. Corolla with four or five unequal lobes. Stamens four, with their filaments free. Ovary one-celled, stigma simple. Fruit crowned by the calyx.

1. *Dipsacus*, 95, 96.

2. *Scabiosa*, 95, 97.

#### Order XLVI. COMPOSITÆ.

Calyx adnate to the ovary, its limb forming a toothed, bristly, or feathery pappus. Corolla tubular or ligulate. Stamens five, with coherent anthers. Ovary one, style filiform, with two stigmas. Fruit an achenium, crowned by the pappus.

##### CORYMBIFERÆ.

1. *Eupatorium*, 304, 319.
2. *Petasites*, 305, 324.
3. *Tussilago*, 305, 324.
4. *Senecio*, 305, 324.
5. *Cineraria*, 305, 327.
6. *Doronicum*, 305, 328.
7. *Chrysocoma*, 304, 319.
8. *Aster*, 305, 326.
9. *Erigeron*, 305, 323.
10. *Solidago*, 305, 326.
11. *Inula*, 305, 327.
12. *Pulicaria*.
13. *Gnaphalium*, 304, 321.
14. *Bellis*, 305, 328.
15. *Chrysanthemum*, 305, 329.
16. *Pyrethrum*, 305, 329.
17. *Matricaria*, 305, 330.
18. *Anthemis*, 305, 330.
19. *Achillea*, 305, 331.
20. *Diotis*, 304, 319.
21. *Artemisia*, 304, 320.
22. *Tenacetum*, 304, 320.
23. *Bidens*, 304, 318.

24. *Conyza*, 304, 323.

##### CYNAROCEPHALÆ.

25. *Carlina*, 304, 318.
26. *Centaurea*, 305, 332.
27. *Arctium*, 304, 314.
28. *Onopordum*, 304, 317.
29. *Carduus*, 304, 315.
30. *Cnicus*, 304, 316.
31. *Serratula*, 304, 315.

##### CICHORACEÆ.

32. *Lapsana*, 304, 313.
33. *Cichorium*, 303, 314.
34. *Hypochoeris*, 303, 313.
35. *Crepis*, 303, 312.
36. *Hieracium*, 303, 310.
37. *Apargia*, 303, 309.
38. *Picris*, 303, 306.
39. *Tragopogon*, 303, 306.
40. *Leontodon*, 303, 308.
41. *Lactuca*, 303, 307.
42. *Prenanthes*, 303, 308.
43. *Sonchus*, 304, 307.
44. *Xanthium*, 344, 360.

#### Order XLVII. CAMPANULACEÆ.

Calyx adnate to the ovary, six-cleft or entire. Corolla five-lobed, regular or irregular. Stamens equal in number to the lobes of the corolla, anthers two-celled, opening longitudinally. Style one. Fruit dry, opening by lateral fissures or valves at the apex, many-seeded.

##### LOBELIÆ.

1. *Lobelia*, 111, 126.

##### CAMPANULÆ.

2. *Campanula*, 111, 124.
3. *Jasione*, 111, 126.
4. *Phyteuma*, 111, 125.

## Order XLVIII. ERICACEÆ.

Calyx four or five-parted, persistent. Corolla four or five-parted, regular or irregular, generally marcescent. Stamens eight; anthers two-celled, opening by pores at the apex or base. Ovary surrounded by a disk or scale, many-celled, many-seeded; style one. Fruit a many-celled, many-seeded capsule or berry.

## ERICACEÆ.

1. Andromeda, 192, 193.
2. Calluna, 181, 185.
3. Erica, 181, 186.
4. Menziesia, 181, 185.
5. Azalea, 110, 122.

## ARBUTEÆ.

6. Arbutus, 192, 193.

## VACCINIÆ.

7. Vaccinium, 181, 184.

## PYROLEÆ.

8. Pyrola, 191, 194.

## MONOTROPEÆ.

9. Monotropa, 191, 193.

## Order XLIX. ILICINEÆ.

Calyx of from four to six imbricated lobes. Corolla regular, with from four to six lobes. Stamens alternate with the lobes of the corolla. Ovary with from two to six or more cells; ovules solitary, pendulous, with a cup-shaped stalk. Fruit fleshy, indehiscent.

1. Ilex, 96, 105.

## Order L. JASMINEÆ.

Calyx divided, persistent. Corolla with from four to eight divisions, rarely none. Stamens two. Ovary two-celled, ovules in pairs, pendulous. Fruit a berry, drupe, or capsule.

1. Ligustrum, 49, 49.
2. Fraxinus, 49, 50.

## Order LI. APOCYNÆ.

Calyx with four or five persistent divisions. Corolla regular, with four or five lobes, twisted, deciduous. Stamens five, with the filaments distinct; anthers two-celled, pollen granular. Ovaries two, one-celled; or one, two-celled, many-seeded.

1. Vinca, 110, 135.

## Order LII. GENTIANÆ.

Calyx divided, persistent. Corolla regular, marcescent, twisted, with four, five, six, eight, or ten lobes. Stamens as many as the lobes. Ovary with one or two cells, many-seeded, style one. Capsule or berry many-seeded, generally two-valved.

1. Chlora, 181, 184.
2. Gentiana, 111, 140.
3. Erythraea, 110, 131.
4. Menyanthes, 110, 120.
5. Villarsia, 110, 121.

## Order LIII. POLEMONIACEÆ.

Calyx inferior, five-parted, persistent. Corolla five-lobed, regular, deciduous. Stamens five, unequal, from the tube of the corolla. Ovary three-celled; style simple, stigma three-fid. Capsule three-celled, the valves separating at the axis.

1. Polemonium, 110, 123.

## Order LIV. CONVULVACEÆ.

Calyx inferior, four- or five-parted, persistent. Corolla four- or five-parted, regular, plaited, deciduous. Stamens five, from near the base of the corolla. Ovary with from two to four cells, few-seeded; style one, rarely two. Capsule four-celled, the valves separating from the edges of the dissepiment, or opening transversely.

1. *Convolvulus*, 110, 123.
2. *Cuscuta*, 111, 139.

## Order LV. BORAGINÆÆ.

Calyx four- or five-parted, persistent. Corolla four- or five-parted, commonly regular. Stamens five, inserted upon the corolla. Ovary four-parted, four-seeded, with the ovules pendulous. Fruit of four achenia, or a four-celled drupe, or a berry with two or four nuts.

## CYNOGLOSSEÆ.

1. *Asperugo*, 110, 118.
2. *Cynoglossum*, 110, 116.

## ANCHUSEÆ.

3. *Borago*, 110, 118.
4. *Anchusa*, 110, 116.
5. *Lycopsis*, 110, 118.

6. *Symphytum*, 110, 117.

## LITHOSPERMEÆ.

7. *Echium*, 109, 119.
8. *Pulmonaria*, 109, 117.
9. *Lithospermum*, 109, 115.
10. *Myosotis*, 110, 114.

## Order LVI. SOLANEÆ.

Calyx inferior, four- or five-parted, persistent. Corolla regular, or slightly irregular, five-cleft, deciduous. Stamens alternate with the segments of the corolla. Ovary two-celled, stigma simple. Pericarp with one, two, or four cells: seeds numerous.

1. *Datura*.
2. *Solanum*, 110, 130.
3. *Atropa*, 111, 130.
4. *Hyoscyamus*, 110, 129.
5. *Verbascum*, 110, 128.

## Order LVII. OROBANCHEÆ.

Calyx variously divided, persistent. Corolla irregular, persistent, usually two-lipped. Stamen didynamous, anthers two-celled, with the cells distinct, parallel. Ovary in a fleshy disk, one-celled, with two or more parietal placentæ; stigma two-lobed. Fruit a two-valved, many-seeded capsule.

1. *Orobancha*, 242, 262.
2. *Lathræa*, 242, 257.

## Order LVIII. SCROPHULARINEÆ.

Calyx four- or five-parted, persistent. Corolla irregular, or two-lipped, or personate, imbricate. Stamens usually didynamous, sometimes two on the corolla. Ovary free, two-celled; style simple, stigma two-lobed. Fruit a two-celled capsule, with central placenta.

*Stamens didynamous.*

1. *Digitalis*, 242, 260.
2. *Antirrhinum*, 242, 259.
3. *Linaria*, 242, 258.
4. *Scrophularia*, 242, 259.
5. *Limosella*, 242, 261.
6. *Melampyrum*, 242, 256.

7. *Pedicularis*, 242, 257.

8. *Rhinanthus*, 242, 255.

9. *Bartsia*, 242, 254.

10. *Euphrasia*, 242, 255.

11. *Sibthorpia*, 242, 261.

*Stamens two.*

12. *Veronica*, 49, 50.

## Order LIX. LABIATÆ.

Calyx tubular, persistent. Corolla two-lipped, the lower lip three-cleft. Stamens didynamous, rarely two. Ovary four-lobed; style one, from the base of the lobes; stigma two-parted. Fruit of four achenia, enclosed in the calyx.

- |                           |                            |
|---------------------------|----------------------------|
| MENTHÆ.                   | 10. Glechoma, 241, 246.    |
| 1. Mentha, 241, 244.      | STACHYDÆ.                  |
| 2. Lycopus, 49, 55.       | 11. Melittis, 241, 253.    |
| MONARDEÆ.                 | 12. Lamium, 241, 247.      |
| 3. Salvia, 49, 55.        | 13. Leonurus, 241, 251.    |
| SATUREINÆ.                | 14. Galeopsis, 241, 247.   |
| 4. Origanum, 241, 252.    | 15. Galeobdolon, 241, 248. |
| 5. Thymus, 241, 252.      | 16. Stachys, 241, 249.     |
| 6. Clinopodium, 241, 251. | 17. Ballota, 241, 250.     |
| SCUTELLARIÆ.              | 18. Marrubium, 241, 250.   |
| 7. Scutellaria, 241, 253. | AJUGÆ.                     |
| 8. Prunella, 241, 254.    | 19. Ajuga, 241, 242.       |
| NEPETÆ.                   | 20. Teucrium, 241, 243.    |
| 9. Nepeta, 241, 244.      |                            |

## Order LX. VERBENACEÆ.

Calyx tubular, persistent. Corolla irregular, tubular. Stamens didynamous, sometimes two. Ovary two- or four-celled; style one, stigma cleft. Fruit a capsule or berry, with two or four nucules.

1. Verbena, 241, 244.

## Order LXI. LENTIBULARIÆ.

Calyx divided, persistent. Corolla two-lipped, spurred. Stamens two. Ovary one-celled, of two carpels; styles short, stigma of two plates. Capsule one-celled, many-seeded, with a large central placenta.

1. Pinguicula, 49, 54.      2. Utricularia, 49, 54.

## Order LXII. PRIMULACEÆ.

Calyx five- or four-parted, persistent. Corolla regular, with five or four lobes. Stamens opposite to the lobes of the corolla. Ovary free, one-celled, with a central placenta; stigma capitate. Fruit a capsule, with numerous seeds.

- |                          |                          |
|--------------------------|--------------------------|
| 1. Primula, 110, 119.    | 6. Centunculus, 96, 103. |
| 2. Hottonia, 110, 121.   | 7. Trientalis, 180, 181. |
| 3. Cyclamen, 110, 120.   | 8. Glaux, 111, 135.      |
| 4. Lysimachia, 110, 121. | 9. Samolus, 111, 131.    |
| 5. Anagallis, 110, 122.  |                          |

## Order LXIII. PLUMBAGINÆ.

Calyx tubular, five-cleft, plicate, inferior. Corolla regular, five-parted. Stamens five. Ovary free, one-celled, one-seeded; styles five. Fruit a utricle, with an inverted seed.

1. Statice, 114, 160.

## ORDER LXIV. PLANTAGINÆÆ.

Calyx four-parted, imbricate, persistent. Corolla regular, four-parted. Stamens four. Ovary free, one-celled, or with two or four cells; ovules one, two, or more; style one. Capsule opening transversely.

1. Plantago, 96, 102.

2. Littorella, 343, 357.

## Section IV. MONOCHLAMYDEÆ.

*Flowers incomplete, or having a single perianth, not distinguishable into calyx and corolla.*

## Order LXV. AMARANTHACEÆ.

Perianth of from three to five segments, persistent. Stamens from three to five, hypogynous. Ovary free, one-celled, with one or several ovules; style one or none; stigma simple or compound. Capsule one-celled; seeds from a central placenta; embryo curved round a central farinaceous albumen.

1. Amaranthus, 340, 360.

## Order LXVI. CHENOPODIACEÆ.

Perianth generally five-parted, persistent. Stamens five, two, or one, from the base of the perianth. Ovary free or adhering to the tube of the perianth; style divided, rarely one. Fruit indehiscent, dry, membranous, sometimes fleshy. Seed with the embryo spiral, or curved, or doubled, with or without albumen.

## SALSOLEÆ.

1. Salsola, 112, 138.

## SALICORNIEÆ.

4. Salicornia, 45, 45.

## CHENOPODEÆ.

2. Chenopodium, 112, 136.

## ATRIPLICEÆ.

5. Atriplex, 384, 384.

3. Beta, 111, 138.

## Order LXVII. POLYGONEÆ.

Perianth with three, five, or six segments. Stamens varying in number, from the base of the perianth. Ovary one, free, erect; styles and stigmas several. Fruit a nut or achenium, often triangular. Seed one, with the embryo inverted in a farinaceous albumen.

1. Polygonum, 182, 188.

2. Rumex, 164, 176.

3. Oxysia, 164, 176.

## Order LXVIII. ELEAGNEÆ.

Mostly dioecious. Perianth tubular, four-parted. Stamens three or more; anthers two-celled. Fertile flower with the perianth tubular, two- or four-toothed; ovary one-celled; style short, stigma glandular. Fruit crustaceous, enclosed within the fleshy perianth.

1. Hippophaë, 367, 379.

## Order LXIX. THYMELEÆ.

Perianth tubular, four- or five-parted. Stamens four or five, in the orifice of the tube; anthers two-celled. Ovary free, one-celled, with one pendulous ovule. Fruit a nut or drupe.

1. Daphne, 181, 187.

## Order LXX. SANTALACEÆ.

Perianth adnate to the ovary, its limb with from three to five segments, valvate. Stamens four or five, opposite to the segments. Ovary one-celled, with from one to four ovules from near the apex of a central placenta; style one. Fruit drupaceous.

1. Thesium, 111, 135.

## Order LXXI. ARISTOLOCHIEÆ.

Perianth adnate to the ovary below, above tubular, with an irregularly lobed, and often dilated limb. Stamens six, ten, or twelve, epigynous. Ovary with three or six cells; style simple, stigma radiate. Fruit many-seeded.

1. Aristolochia, 334, 342.
2. Asarum, 210, 210.

## Order LXXII. EMPETREÆ.

Diœcious. Perianth of several hypogynous scales in several rows. Stamens free, equal in number to the inner row, and alternate with them. Ovary free, on a fleshy disk, with three, six, or nine cells; style one, stigma radiate. Fruit fleshy, with bony cells.

1. Empetrum, 366, 377.

## Order LXXIII. EUPHORBIAEÆ.

Usually monœcious. Perianth lobed, or none. Barren flowers with one or more stamens; anthers two-celled. Fertile flowers with a superior two- or three-celled ovary; styles two or three; stigma compound or simple. Capsule opening elastically, with one or two suspended seeds in each cell.

1. Buxus, 344, 358.
2. Euphorbia, 343, 345.
3. Mercurialis, 367, 381.

## Order LXXIV. URTICACEÆ.

Flowers monœcious or diœcious, scattered, or in catkins. Perianth inferior, with three, four, or six segments, or entire. Stamens opposite the lobes of the perianth. Ovary free, with one or two cells, and solitary ovules; stigmas one or two. Fruit an achene, with one seed, or several combined and immersed in the persistent fleshy perianth, or upon large fleshy receptacles.

## URTICÆÆ.

1. Parietaria, 96, 104.
2. Urtica, 344, 358.

## CANNABINEÆ.

3. Humulus, 367, 379.

## Order LXXV. ULMACEÆ.

Flowers perfect or polygamous. Perianth inferior, often irregular. Stamens opposite to the lobes of the perianth. Ovary free, two-celled, with solitary, pendulous ovules; stigmas two. Fruit indehiscent, membranaceous, or drupaceous, with one or two cells.

1. Ulmus, 112, 138.

## Order LXXVI. AMENTACEÆ.

Flowers monœcious, or diœcious, rarely perfect. Barren flowers



capitate or in catkins, sometimes with a membranous perianth. Stamens inserted on the scales, often monadelphous. Fertile flowers clustered, solitary, or in catkins. Ovary generally simple; stigmas one or more. Fruit as many as the ovaries, bony or membranous.

## BETULINÆ.

1. Betula, 345, 364.

2. Alnus, 344, 358.

## SALICINÆ.

3. Salix, 366, 368.

4. Populus, 367, 380.

## CUPULIFERÆ.

5. Fagus, 344, 363.

6. Quercus, 345, 363.

7. Corylus, 345, 365.

8. Carpinus, 345, 364.

## Order LXXVII. MYRICINÆ.

Flowers monœcious, or diœcious, amentaceous. Perianth none. Barren flower, with six or eight stamens, and two- or four-celled anthers, opening longitudinally. Female flowers with a one-celled ovary, surrounded by hypogynous, persistent scales; stigmas two. Fruit drupaceous. Seed solitary, erect.

1. Myrica, 367, 379.

## Order LXXVIII. CONIFERÆ.

Flowers monœcious or diœcious. Barren flowers with one or several monadelphous stamens, collected in a deciduous catkin about a common stalk; anthers of two or more lobes opening outwards, often terminated by a scale-like crest. Fertile flowers usually in cones, sometimes solitary. Ovary spread open, like a flat scale, without style or stigma, and arising from the axil of a membranous bractea. Ovules naked, in pairs on the face of the ovary, and inverted. Fruit a cone, or a solitary naked seed. Testa crustaceous, embryo in the axis of a fleshy albumen.

## ABIETINÆ.

1. Pinus, 345, 366.

## CUPRESSINÆ.

2. Juniperus, 368, 382.

## TAXINÆ.

3. Taxus, 368, 383.

## CLASS II. MONOCOTYLEDONÆ.

Stem with no distinction of bark, wood, and pith, destitute of medullary rays, and consisting of cellular tissue, in the midst of which the vascular tissue is disposed in bundles. It increases by the addition of new matter in the centre, and hence these plants are also called ENDOGENOUS. Cotyledon one; or, if more, they are alternate.

## Section I. FLORIDÆ.

*Perianth petaloid, its pieces verticillate.*

## I. Ovary free.

## Order LXXIX. ALISMACEÆ.

Perianth free, six-parted, coloured. Stamens six, nine, or more.

Ovaries three, six, or more; as are the styles and stigmas. Capsule indehiscent, with one or many seeds; embryo curved.

1. *Alisma*, 164, 180.
2. *Actinocarpus*.

3. *Sagittaria*, 344, 362.

#### Order LXXX. BUTOMEÆ.

Perianth free, six-parted, the three inner pieces petaloid. Stamens hypogynous. Ovaries three, six, or more, distinct or united, with as many simple stigmas. Follicles several, distinct or united. Seeds minute, numerous, attached to a reticulated receptacle, lining the inner surface of the cell.

1. *Butomus*, 191, 191.

#### Order LXXXI. JUNCAGINEÆ.

Perianth uniform, herbaceous, or none. Stamens hypogynous. Ovaries superior; ovules one or two, erect, approximated at the base. Pericarps indehiscent.

1. *Triglochin*, 164, 179.
2. *Scheuchzeria*, 164, 179.

#### Order LXXXII. AROIDEÆ.

Flowers mostly unisexual, arranged on a spadix. Perianth with three, four, or six divisions, or none. Stamens definite and opposite to the segments of the perianth, or numerous; anthers extrorse. Ovaries free, solitary or numerous, with from one to three cells, and one or many seeds; stigmas one or two. Fruit indehiscent, succulent or dry; embryo in the axis of a fleshy albumen.

##### ARINEÆ.

1. *Arum*, 345, 362.
2. *Acorus*, 164, 170.

##### TYPHINEÆ.

3. *Typha*, 343, 348.
4. *Sparganium*, 343, 348.

##### LEMNEÆ.

5. *Lemna*, 49, 57.

#### Order LXXXIII. NAIADES.

Flowers perfect or monœcious. Perianth of two or four pieces, or none. Stamens definite, hypogynous. Ovaries one or more, superior; stigma simple; ovule solitary, pendulous. Fruit dry, indehiscent, one-celled, one-seeded; seed pendulous.

1. *Potamogeton*, 96, 116.
2. *Ruppia*, 96, 117.
3. *Zannichellia*, 343, 347.
4. *Zostera*, 45, 46.

#### Order LXXXIV. SMILACEÆ.

Perianth with six or eight segments, regular, petaloid. Stamens three, six, or eight, hypogynous or perigynous. Ovary free, with three or four cells, which contain one, two, or many seeds; style one, stigma three-parted. Fruit a berry. Testa generally membranous, albumen horny.

1. *Ruscus*, 366, 378.
2. *Convallaria*, 163, 170.
3. *Paris*, 182, 190.

## Order LXXXV. LILIACEÆ

Perianth with six segments, regular, petaloid. Stamens six, perigynous. Ovary free, with three cells, and many-seeded; stigma simple or three-lobed. Capsule three-celled, seeds with a spongy integument, not black.

1. *Fritillaria*, 164, 167.

2. *Tulipa*, 164, 167.

## Order LXXXVI. ASPHODELEÆ.

Perianth of six segments, regular, petaloid. Stamens six, hypogynous or perigynous. Ovary free, three-celled, with one, two, or many seeds; style one; stigma simple. Capsule three-celled, three-valved. Seeds with a black crustaceous testa.

1. *Ornithogalum*, 164, 167.

4. *Allium*, 164, 166.

2. *Scilla*, 164, 168.

5. *Anthericum*, 164, 169.

3. *Hyacinthus*, 163, 168.

6. *Asparagus*, 164, 169.

## Order LXXXVII. COLCHICACEÆ.

Perianth six-parted, petaloid. Stamens six, perigynous; anthers extrorse. Ovaries superior, one of three cells, or three of one cell, more or less connected; ovules numerous; styles one or three. Fruit of three separate one-celled follicles, or more or less united into a three-celled capsule.

1. *Colchicum*, 164, 179.

2. *Tofieldia*, 164, 168.

## Order LXXXVIII. RESTIACEÆ.

Perianth more or less glumaceous, of from two to six segments, rarely none. Stamens hypogynous or perigynous, from one to six; when half as many as the segments of the perianth, they are opposite to the inner. Anthers one-celled. Ovary superior, with one or more cells; ovules solitary, pendulous. Fruit capsular or nucummentaceous, with inverted seeds.

1. *Eriocaulon*, 343, 359.

## Order LXXXIX. JUNCEÆ.

Perianth more or less glumaceous, of six segments. Stamens six, inserted into the base of the segments, or three opposite to the outer; anthers two-celled. Ovary one or three-celled, superior; ovules one, three, or many in each cell; style one, stigmas generally three. Fruit capsular, three-valved.

1. *Narthecium*, 164, 169.

2. *Juncus*, 164, 171.

3. *Luciola*, 164, 174.

II. *Ovary adnate to the tube of the corolla.*

## Order XC. HYDROCHARIDEÆ.

Perianth with six segments, the inner three petaloid, regular. Stamens epigynous. Ovary one, inferior; stigmas three, six or one. Fruit dry or succulent, indehiscent, one-celled, or with several cells. Embryo straight, no albumen.

1. *Hydrocharis*, 368, 382.

2. *Stratiotes*, 227, 234.

### Order XCI. ORCHIDEÆ.

Perianth with six segments, the ~~inner~~ three petaloid, two being above, and one, frequently lobed and spurred, below. Stamens three, united in a central column, the lateral two, or sometimes the middle one, abortive; pollen powdery or coherent in masses. Ovary one-celled, inferior, with three parietal placentas; style forming part of the column with the stamens; stigma a viscid space in front of the column. Capsules three-valved; seeds very numerous, minute, with a loose, reticulated testa.

- |                         |                            |
|-------------------------|----------------------------|
| OPHRYDEÆ.               |                            |
| 1. Orchis, 334, 335.    | 6. Listera, 334, 339.      |
| 2. Ophrys, 334, 338.    | 7. Epipactis, 334, 340.    |
| 3. Herminium, 334, 337. | MALAXIDEÆ.                 |
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| 4. Neottia, 334, 393.   | 9. Corallorhiza, 335, 341. |
| 5. Goodyera, 334, 338.  | CYPRIPIDEÆ.                |
|                         | 10. Cypripedium, 334, 342. |

### Order XCII. IRIDEÆ.

Perianth with six segments, petaloid, often unequal. Stamens three, at the base of the outer segments; anthers extrorse. Ovary inferior, three-celled; style one; stigmas three, dilated, often petalliform. Capsule three-celled, three-valved; seeds numerous, hard, with a cylindrical embryo, and generally horny albumen.

- |                    |                        |
|--------------------|------------------------|
| 1. Iris, 58, 64.   | 2. Trichonema, 58, 63. |
| 3. Crocus, 58, 63. |                        |

### Order XCIII. AMARYLLIDEÆ.

Perianth with six segments, petaloid, unequal. Stamens six, at the base of the segments; anthers introrse. Ovary inferior, three-celled; style one; stigmas three, dilated, often petalliform. Capsule three-celled, three-valved; seeds numerous, with the integument not hard, the embryo straight.

- |                         |                        |
|-------------------------|------------------------|
| 1. Narcissus, 163, 165. | 2. Leucojum, 163, 165. |
| 3. Galanthus, 163, 164. |                        |

### Order XCIV. TAMEÆ.

Perianth with six segments, petaloid. Stamens six, at the base of the segments; anthers introrse. Ovary inferior, three-celled; ovules two in each cell, erect; style one; stigmas three, reflexed. Fruit bacciform, three-celled. Embryo minute, enclosed in the albumen.

1. Tamus, 367, 380.

## Section II. GLUMACEÆ.

*Floral envelopes of alternate, imbricated bracteas or scales.*

### Order XCV. CYPERACEÆ.

Flowers perfect or frequently monœcious, each having a chaff-like scale on a common axis. Perianth none, or rarely membranous.

Stamens hypogynous, generally three; anthers erect, basifixed. Ovary one-celled, often surrounded by bristles; style single, generally three-parted, sometimes two-parted. Fruit a hard achenium or nucule.

## CYPEREÆ.

1. *Cyperus*, 59, 65.
2. *Schoenus*, 58, 64.

## SCIRPEÆ.

3. *Cladium*, 49, 57.
4. *Rhynchospora*, 58, 65.
5. *Eleocharis*, 59, 68.

6. *Scirpus*, 58, 65.

7. *Eriophorum*, 59, 68.

## CARICEÆ.

8. *Carex*, 343, 349.

## ELYNEÆ.

9. *Elyna*, 343, 347.

## Order XCVI. GRAMINA.

Flowers perfect, sometimes monœcious or diœcious, each with two bracteas or glumes (chaff-scales), rarely one or none, and two inner bracteas or paleæ (husks), rarely one. Stamens hypogynous, from one to six, generally three. Ovary one-celled; styles generally two. Fruit a caryopsis.

## PANICEÆ.

1. *Digitaria*, 59, 75.

## PHALARIDEÆ.

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## PHLEÆ.

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33. *Nardus*, 59, 69.

## SERIES II. CELLULAR PLANTS.

*Composed of cellular tissue, sometimes with a few ducts.  
No flowers with stamens and pistils.*

### Class III. ACOTYLEDONEÆ.

Divided into several natural orders, of which the following have been included in this work.

#### Order XCVII. FILICES.

Leafy plants, with a trunk or rhizoma. Leaves, generally named fronds, bearing on their under side or at the edges the fructification, consisting of thecæ, containing sporules.

##### POLYPODIEÆ.

1. Polypodium, 386, 387.
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##### OPHIOGLOSSÆ.

15. Ophioglossum, 386, 394.

#### Order XCVIII. LYCOPODINEÆ.

Leafy plants, with numerous small undivided leaves, and axillar or spiked thecæ or capsules, containing sporules.

1. Lycopodium, 386, 394.

#### Order XCIX. EQUISETACEÆ.

Leafless, branched plants, with an articulated, striated, fistular stem, and a terminal spike, consisting of angular or peltate scales, bearing thecæ or capsules, containing sporules surrounded by elastic clavate filaments, by some called stamens.

1. Equisetum, 386, 395.

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